An Address
ON
THE POWERS OF NATURAL RESISTANCE OR THE PERSONAL FACTOR IN DISEASE OF MICROBIC ORIGIN.

Being the Annual Oration of the Medical Society of London, delivered on May 26th, 1902,

BY STEPHEN MACKENZIE, M.D. ABERD., F.R.C.P. LOND.,
SENIOR PHYSICIAN TO THE LONDON HOSPITAL.

MR. PRESIDENT AND GENTLEMEN,—There can be few amongst us who do not rejoice in the privilege we have of living in an epoch of such progress and mental activity as the present. The great increase of knowledge of the latter half of the last century is found in every branch of science, but it impresses us, perhaps, most in the advance of scientific knowledge in our own profession. It has been brought about by improved means of exact and minute research aided by instruments of increased precision. So that if medicine, in its widest sense, cannot be claimed as an exact science, our methods of dealing with the complex and difficult problems of disease in the living and ever-changing body are as exact as the present state of science permits. Great as have been our advances we cannot doubt that they will be infinitely greater and probably more rapid in the future. Many, however, are dazzled and led away by the apparent completeness of our recently acquired and almost daily increasing knowledge and are inclined to overlook, to neglect, and almost to deride the knowledge which we have acquired by the patient industry and accumulated experience of our predecessors—the work that our fathers have given the best years of their life to accomplish. Our President (Dr. W. H. Allchin) touched upon this point in his address last year. There could be no greater or more inexcusable mistake. Whilst gratefully acknowledging and utilising the newest methods and knowledge as aids to medicine and surgery, theoretical and practical, we must consider them in relation to the observed facts, empirical and scientific, that have been acquired since medicine has been studied as an art or a science. Some of the aphorisms of Hippocrates, the clinical observations of Sydenham, and the pathological observations of John Hunter, are as pregnant of truth and as worthy of being treasured in the memory now as when they were first promulgated, and are in no sense less important than are the most recent discoveries in the laboratories of the bacteriologist and the chemist. It is quite certain that the accurate record of careful observations of the phenomena of disease will always be valuable additions to medical knowledge, whether or not capable of explanation or use at the time they were made. We see striking illustrations of this in the writings of the three great Guy's physicians—Bright, Addison, and Hodgkin. There have been many stages in arriving at the knowledge which we at present possess. The progress of morbid anatomy and the revelations of the bacteriologist and chemist have given great precision to our knowledge and have opened out new methods of research and treatment. The task which I have set myself on the present occasion is to point out that whilst availing ourselves of all scientific discoveries we must not overlook or forget the valuable knowledge which we already possess and may still further acquire by careful, patient, and persevering clinical work. The tendency of the medical mind at the present time seems to be to attach too great importance to the germ or seed and too little to that of the body or soil in diseases of microbic origin. I propose to pass under review a few diseases of this class and to endeavour to point out the share or relative importance of these two factors in such diseases.

INFLUENZA.

Let us first take the case of influenza. It presents the extreme end of a series of infectious diseases—i.e., diseases of microbic origin. It prevails pandemically at irregular and often long intervals, usually followed by epidemics for some years. When pandemic it is remarkable for the number of persons who are attacked and the rapidity with which it spreads from country to country. Neither race nor class, sex nor age, afford exemption. It is so widely spread when pandemic that very few escape, though probably a very few are immune, and these attribute their escape to some nostrum or the disinfectant most in fashion. At these times the seed is everywhere and almost everywhere it finds a congenial soil, so that the natural resistance or personal factor, as far as susceptibility goes, is practically *nil*. Not so the effect; though said to be the smallest bacillus known, like the Biblical grain of mustard-seed it gives rise to very great results. In the aged, in those suffering from pulmonary and cardiac disease, and in those devitalised from any cause, it is a very serious malady often leading to a fatal issue. Though in the robust it is often apparently a comparatively trivial disease this generation has learned that it is to be treated with great respect and that apparently slight cases neglected may lead to very grave results. We have learnt, too, that it may be attended with very serious and dangerous complications, such as abscess of the brain, purulent otitis, phlebitis, affections of the heart and nervous system, &c. Whether these complications are the direct effect of Pfeiffer's bacillus or are due to a mixed infection has not been fully worked out.

The subject of mixed infections raises a very interesting question of great importance in several of the infectious diseases, indicating that the seed is not always pure or that the tissues the resistance of which has been broken down by one microbe fall a ready prey to others, but into this point I do not propose to enter.

Lastly, we have learnt that the effects of an attack may be of prolonged duration, continuing even for years. Whether they depend on tissue changes effected by the direct action of the bacillus or its toxins in the attack or the latter surviving long after the attack of influenza is uncertain, but we see in diphtheria the supervention of paralysis some weeks after the acute stage has passed off, and in syphilis the occurrence of nervous lesions years after all other active manifestations which we recognise as directly syphilitic have ceased to present themselves. Let us turn now to another subject—tuberculosis.

TUBERCULOSIS.

When I began the study of medicine we were still in the throes of battle as to what was tubercle and what tubercle was. The unitarian doctrine of Laennec did not by any means meet with universal assent. The microscope was pressed into service to decide what was the essential constitution of tubercle and diligent search was made for the "tubercle cell" as there had been for the "cancer cell," as fruitless in the one case as in the other. Then followed the epoch in which Villemin showed that tubercle was inoculable, though many pitfalls were encountered in establishing this fact. Finally, in 1882, Koch was able to demonstrate that the specific cause of tuberculosis in all its various forms was a micro-organism, the bacillus tuberculosis, that it was present in every tuberculous lesion, and that without this there was not any tuberculosis. The gropings to establish its nature, often highly scientific, sometimes blind, were at an end; the efforts of many of the keenest and ablest workers to understand its morbid anatomy and pathology were harmonised and their errors were corrected and we obtained an absolute criterion to which we could appeal to decide what was tuberculous. It was left to the clinician and sanitarian to apply this knowledge in the treatment and prevention of disease. With the aid of the bacteriologist we have learned a great deal of the life of the tubercle bacillus both inside and outside the body and of the ways by which tuberculous persons become affected. But in this respect the tendency has been perhaps to concentrate attention on the microbe and to devote less consideration than its importance demands to the human host in which it finds a lodgment. This is seen not so much in the deadhouse where the gross changes in the organs are forced on our notice as in the wider aspects of the subject which deal with the causation and prevention of tuberculosis. We are apt to think too much of the *seed* and too little of the *soil*. We have learned since Koch's discovery of the bacillus that from many sufferers from tuberculosis, more especially in pulmonary phthisis, the secretions or discharges given forth contain the bacillus in an active condition and that the clothes and handkerchiefs and the beds and the floors and walls of the dwellings of the sick are contaminated in this manner so as to be a source of danger to

others. These secretions and discharges undergo desiccation and are commingled with other particles constituting dust which are inhaled with the air we respire, and haply finding in the respiratory or digestive organs conditions favourable for their growth increase and multiply and bring about tuberculosis. We have reasons for believing that casual bacilli may not only reach the respiratory and digestive organs but may make their way by the blood-vessels into practically all parts of the body where, in favouring conditions, they set up tuberculous processes. Thus are accounted for cases of tuberculous meningitis, tubercle of the kidney, &c. We have learned that the bacillus tuberculosis may be contained in the milk, the butter, the cheese, and the flesh which we consume as food. In recent years great efforts have been made to exclude this mode of infection by the extermination of tuberculosis in cattle and the destruction of food-stuffs derived from infected bovines. Like a bolt from the blue came the recent pronouncement of Koch himself at the late British Congress on Tuberculosis that the risk of transference of tuberculosis from cattle to human beings was so slight as to be a negligible quantity. The gauntlet thus thrown down was immediately taken up. A Royal Commission has been appointed to consider and to report on the subject. Already evidence has been tendered that such transference does take place, a fact not disputed by Koch himself. Many must admit that the evidence not only as to the fact but also of the frequency with which tuberculosis is derived from bovines is in need of revision and consideration. Dieudonné, Cattle, Shennan, Still, Carr, and Colman have shown that in the tuberculosis of infants the primary seat of infection in most cases is through the respiratory and not the digestive tract, and further Koch in his address to the Congress said: "It is just as likely that these cases of intestinal tuberculosis were caused by the widely propagated bacilli of human tuberculosis." Cattle writes: "It is not only milk that goes into the mouths of children; they grub about on all-fours, plastering their fingers with the tuberculous dust hidden away in inaccessible corners and then put their fingers in their mouths." It is more than possible that the danger of infection from food has been over-estimated. It is none the less our duty to use all the measures which experience dictates to prevent the entrance of the bacilli by this route, and we should be guilty of folly if we relaxed the measures of prevention now in use until we have a decisive verdict on this point.

But it is of the *soil* in which the tuberculous seed grows that we have also to take account. We have learned that the bacillus tuberculosis is so widely disseminated that no one is exempt from the risk of infection. The dust inhaled in many dwellings, in public rooms, in vehicles, and in the streets is often contaminated with the bacillus. Strauss has shown that in cotton-wool plugs in the nostrils of those in attendance at the Charité Hospital, Paris, tubercle bacilli were found in nearly a third of the cases examined and that they proved infective to animals. Dieudonné found tubercle bacilli and pyogenic cocci on the hands and in the noses of children from the age of nine months to two and a half years whose fathers or mothers were the subjects of tuberculosis. Though the protective arrangements at the entrance to the respiratory passages to some extent safeguards the entrance of the bacilli, this protection is by no means complete, and when adenoids or some malformation of the nostrils compel oral breathing it is very imperfect. This is shown by the great frequency of pulmonary tuberculosis. Post-mortem experiences reveal to us that tuberculous changes are found in the lungs and other parts of persons dying from various non-tuberculous diseases or killed by accident—placed by different writers at from 30 to 90 per cent.—but which have become arrested and obsolete. So that not only are all liable to become infected, but we know that in a much larger number of persons than was formerly imagined actual infection does take place. But we learn from this fact also that the infection may be but slight and temporary, and that within the body and in the tissues there exist physiological mechanisms that arrest the invasion and bring it to a standstill. We know also that where the risk of infection must be considerable, as in the aggregations of consumptives in hospitals, very few who move and live among them contract the disease. Though the experience of all hospitals has not been so favourable as has that of the Royal Hospital for Consumption at Brompton it has been stated that over a considerable number of years the incidence of phthisis amongst the physicians, nurses, and servants of that institution has not been greater than that of the general population.

Thus it is demonstrated that the human soil is not in all persons a favourable one for the growth of the tuberculous seed, and that the human organism has a considerable power of resistance and self-protection, very happily illustrated by Osler by the "Parable of the Sower." Dr. W. Howship Dickinson has within the last month published an able and interesting sermon with St. Matthew's Parable of the Sower for his text. Dr. Dickinson has treated the subject of tuberculosis on almost exactly the same lines as myself but in his own peculiarly felicitous manner and literary style. It is equally obvious from the great frequency of tuberculous diseases that all are not equally fortunate in this respect—i.e., in the powers of natural resistance; or, in other words, some are more vulnerable than others. Mankind is naturally resistant to tuberculosis (Kanthack). On what this vulnerability immediately depends we need not here discuss, but we know a great deal of the circumstances in which tuberculosis occurs. We know that it may occur at any age, that its various forms have special age proclivities, and that the majority of deaths from tuberculous affections, as a whole, occur between 20 and 30 years of age. We know by the writings of our predecessors and by our own experience that many inherit and some acquire a tendency to tuberculosis. There can be no doubt that the progeny of the tuberculous are much more liable to tuberculosis than are those in whose family no such strain runs. On what that predisposition depends opinions may differ and we have no absolute knowledge. Whilst congenital tuberculosis, whether placental or germinative, is an established fact, it is extremely rare, but most who are born of tuberculous parents and become tuberculous are not, we believe, actually so at birth. Inheritance in bovine tuberculosis is believed to be answerable for more than one-half of its very considerable mortality. We are often able to detect the tendency by their conformation and we know that they often show a marked tendency to catarrh. I do not discuss the nature and significance of what used to be called the strumous or scrofulous diathesis. We are also quite aware that pulmonary and other forms of tuberculosis do occur in those of robust physique with well-formed chests, but this does not detract from the importance of our experience that the delicate and the frail or those of feeble vitality are the most prone to become tuberculous. The great liability to catarrh in the delicate offspring of tuberculous parents by causing inflammation of the air-passages doubtless weakens their powers of resistance to the tuberculous bacillus which is nearly always at hand. Alcohol again is a predisponent. How often do we hear in taking the history of a family, otherwise clean as regards tuberculosis, the statement that a relative died from consumption but that "he gave way to drink"—an explanation that in the minds of his family this was the cause of his becoming tuberculous? It has been shown that those who are intemperate or who have opportunities of drinking show a higher mortality from phthisis than do others and that the children of the intemperate are more prone to become tuberculous than are those of the temperate. No doubt through alcohol persons acquire or inherit a lessened power of resistance to tuberculosis. Diseases like measles and whooping-cough, which are often complicated with broncho-pneumonia, and diabetes, which greatly reduces the powers of vital resistance, may open the door to tuberculosis.

In the exactness of our recently-acquired knowledge of the pathology there has been a tendency, as I have already stated, to deal lightly with the accumulated experience of the past and to set little esteem upon the laborious work of the great masters of medicine. A timely protest against this tendency has been recently made by Sir Dyce Duckworth in his admirable address on "The Personal Factor in Tuberculosis" which deals with this important subject with an ability and length that I cannot command and which I have read since writing this oration. The personal factor in the clinical aspect and in the pathology of tuberculosis is of quite equal importance to that of the microbe essential as that is for the production of tubercle. "The microbe," writes Professor Vaugeley of Bordeaux, "is nothing whilst the organism in which it thrives is the main factor." How thoroughly this is borne out in the treatment of tuberculous diseases. When once the seed has taken a firm root in the body we cannot with certainty at the present time kill it. It may grow or it may wither, we may cut it out when it is purely local and accessible, in some parts we may destroy it by

Finsen's light treatment or Roentgen rays when it is confined to the skin and superficial mucous membranes; but when deeply seated we at present know of no remedy which will certainly destroy the virus, not even lachnanthes. I say at present because I do not think we ought to be hopeless of effective results from tuberculins or antitoxic serums. It is true that the hopes that were raised by Koch's first tuberculin, prematurely published and boomed by the lay press, did not realise the expectations that were excited. No doubt the pendulum swung round too completely and the first trials insufficiently tested or used only in the manner then advised did not offer encouraging results. Nor has general experience, so far as it has been employed, been much more encouraging as regards Tuberculin R. Koch has introduced a still newer preparation and there are some who hope that with modifications and in smaller doses distributed over a considerable period, especially in early cases of phthisis, it may yet prove effective. Petruschky claims to have obtained good results by much smaller doses than were originally employed and extending over several courses with intermissions. The method is scientific and is supported by our experience in rabies, tetanus, and diphtheria. Some remedies, such as creasote and guaiacol, of undoubted service in the treatment of phthisis, though not strictly bactericidal in doses that can be safely administered, may possibly diminish the activity of the bacilli and lessen or prevent secondary tuberculosis of the digestive tract by their action on the bacilli in swallowed sputa, but in the opinion of many they only do good by their action on mucous membranes and by lessening cough and expectoration. We disinfect or destroy the sputa and other discharges from the tuberculous, not for the good of the patient, but to prevent the dissemination of the disease to others. Practically our treatment of tuberculous diseases that are not accessible to the surgeon consists in increasing the vigour and resistance of the patient, by life in the open air, abundance of sunlight which is of great importance as its chemical rays are strongly bactericidal, thorough ventilation of the apartments of the sick, and by choosing a climate especially suitable for each case when practicable, abundant, very nourishing and oleaginous food, and by strict attention to general and personal hygiene. In fact, our principal object and power, whether we recognise it or not, is to endeavour by every means in our hands to raise the natural resistance of the body to the microbe—to devote our attention to rendering the soil an unfavourable one to the growth of the tubercle bacillus. It is encouraging and sometimes astonishing how successful our efforts are in this direction, especially when the circumstances of the patient allow of the full use of the means experience has taught us. It is, however, I think, too great a stretch of the truth to say as has been said that "tuberculosis is one of the most curable of diseases." The wise do not often talk of "curing" tuberculosis. Tuberculosis may become arrested under our treatment, and often without it, but we can never be sure that a quiescent or obsolescent tuberculous process may not resume activity, like Mont Pelée, with eruptive violence under certain circumstances. We welcome and admire the princely gifts of Sir Ernest Cassell and other philanthropists for the establishment of sanatoriums for the treatment of the consumptive, and we recognise the duty of municipal and other bodies taking steps for carrying out the "open-air treatment" of phthisis so as to extend to the less affluent the benefits which otherwise are confined to the rich or well-to-do. Though the open-air treatment was first practised in England by Dr. Boddington it did not meet with general adoption and this country is at the present time behind others in the means for carrying it out. There is now, however, an awakening to the importance of this method of treatment.

A point, however, to which I most particularly desire to draw attention is that the undoubted and great diminution in the mortality from consumption that has been going on during the last 50 years, not only in this country, but also in other countries where statistical evidence is available *preceded* the almost exact knowledge which we have now obtained of the pathology of tuberculosis and the discovery of the bacillus. The great value of the work of the late Sir George Buchanan should always be remembered in connexion with his reports on the conditions under which consumption was most prevalent. This striking diminution in the mortality of consumption has been steadily going on under many unfavourable conditions, before any effective measures were taken for disinfecting or destroying the sputa or separating the sick from the healthy. During the greater part of this time in numerous cases husband and wife, mother and daughter, sister and sister were occupying the same bed when one has been the subject of consumption. It has gone on, too, in spite of the great migration from the country to the towns. There can be no doubt that this lessening of consumption has been due to improved sanitation, to better draining of the land, to improved disposal of sewage, and to the better housing, clothing, and feeding of the general population. Of course, we recognise the great influence of modern surgery which, dealing with tuberculosis of the bones and the joints, the glands and the serous cavities, has saved a great number of tuberculous subjects from becoming consumptive. The greatest triumphs in tuberculosis as in other diseases have been in *prevention*.

What lessons do we learn from this general survey of the share taken by the seed and the soil of tuberculosis? First, that we have to prevent or lessen the diffusion of the disease by preventing the dissemination of the tuberculous germs. This is to be done by segregation of the sick either in institutions especially arranged for their care, or when this is impossible by providing that they live in their homes in well-ventilated apartments not occupied by the healthy. We have also to secure the destruction or disinfection of the sputa and other discharges containing the virus and the subsequent disinfection of the rooms that tuberculous subjects have occupied. These measures we are all keenly alive to and we have to continue and to increase our efforts to this end. But we have in addition to taking all means in our power to prevent the propagation and dissemination of the seed not to lose sight of the soil in which it breeds. This is the second direction in which efforts must be made if we are to succeed to lessen still further the prevalence and mortality of tuberculous diseases. What we have to do in this respect is obvious but not easy. We have to increase the natural powers of resistance to the action of the specific microbe both in the individual and in the general population. We have to prevent overcrowding and to improve the dwellings of the working-classes and the poor. Poverty is a powerful predisponent to disease of most kinds but especially to tuberculosis. Koch says: "The breeding-places of the tubercle bacillus are in the slums." Sir J. Crichton Browne has said: "Tuberculosis stands in inverse ratio to the rateable value of the property." I remember many years ago before the discovery of the bacillus someone pressing the late Dr. H. G. Sutton to define what tubercle *really* was. He replied: "Tubercle is making shirts at 5*s*. a week." We cannot make the poor rich but it is our duty no less as citizens than as physicians to see that the poor and the working-classes are decently housed and that their dwellings are kept in a proper sanitary state. We must bring the pressure of public opinion to bear upon municipalities, urban and rural councils, to improve the conditions under which the poor live. Rich and poor alike must be still further educated as to the imperative necessity of fresh air by means of the "open window" or more scientific methods of ventilation. We must secure not only for the dwelling but for all places where people congregate—workshops, factories, churches, and theatres—that they do not respire re-breathed and contaminated air. We must use our influence as medical men to prevent consumptives from marrying and propagating offspring predisposed to the disease; we must continue to urge temperance; we must endeavour to rear a population of more robust physique, offering a more resistant soil to the seeds of tuberculosis. What we have to aim at is the improvement of the race. This is a very high, and to some it may seem a transcendental, ideal, involving great economic and social problems. But the material prosperity of the country has steadily increased. The poor are better housed, clothed, and fed than they were formerly and we have the encouragement of the past in the last half century teaching that tuberculous diseases have materially diminished by the efforts that have been made in these directions.

RHEUMATIC FEVER.

I pass on to the consideration of rheumatic fever. Here our ground is less secure, as the evidence of its bacterial origin is not absolutely admitted at the present moment, though it appears to be within almost immediate realisation. Rheumatic fever is a common disease in this country. It has received a great deal of attention at the hands of medical observers and has exercised the minds of most

of the thinkers in our profession. The state of our knowledge 30 or 40 years ago may, I think, be fairly summarised by saying that it was believed and taught that rheumatic fever was an acute non-purulent inflammation of many joints and of fibrous tissues, attended by fever and acid sweats, and liable to be complicated by endocarditis and pericarditis; that it was due to an acid in the blood and was to be treated by alkalies. A nervous theory was put forward to explain some of the symptoms but it never took firm root. Prout suggested that lactic acid was the cause of the disease and B. W. Richardson endeavoured to prove this experimentally, but this evidence is not accepted. Latham a few years ago explained how lactic acid might be formed in the body. The acid theory was at one time so firmly established as to appear impregnable. It was, however, but a remnant of the humoral pathology that at one time dominated medicine. The faith of most was shaken when Gull and Sutton published their well-known paper on the Treatment of Rheumatic Fever by Mint-water. They revealed to us almost for the first time the natural history of the disease untreated by drugs and showed that it ran very much the same course and lasted about the same time as when treated by alkalies or other active medicines. This was of course before the introduction of salicin and salicyl compounds into the treatment of rheumatic fever. The kindly banter of Wilks who said that "the use of alkalies in rheumatic fever was to remove the idea of acidity from the mind of the doctor" probably did not a little to help in the same direction. We have since learned by the gradual growth of medical knowledge to take a wider view of the nature of rheumatism. The original conceptions were founded on descriptions of the disease as seen in the adult, but the study of the disease in childhood has enlarged our grasp of its clinical features, and we know that whilst acidity of the urine and the sweat is characteristic of rheumatic fever it occurs also in other acute febrile diseases. But even if an acidity of blood or rather a diminished alkalinity of the blood is true it has still to be ascertained how this is brought about. It is interesting to note that Poynton and Paine found that the organism which they have found in rheumatic fever grows best in an acid medium. We have learned that rheumatism, like tuberculosis, is often an inherited or family disease, that it has many expressions besides the arthritis, and that many conditions such as endo- and pericarditis, some cases of pleurisy, several affections of the skin, tonsillitis, and chorea may occur independently of arthritis and have as much right to be regarded as rheumatic as the joint affection. I am aware that this position is not universally admitted, but though the difficulties of obtaining evidence on this point are great it is those who have devoted most attention to the subject who, as a rule, are most convinced of its truth. But those who hold this view, equally with those who do not see the facts in the same light, have always recognised that there must be another factor besides predisposition to account for the occurrence of rheumatism. What this *tertium quid* is has exercised considerable thought and speculation. The influence of the prevailing pathological doctrine has naturally suggested the possibility of a microbe. This is no new view but was maintained years ago by Hueber, Strümpell, and others. It is admitted or suggested that many or most of the clinical phenomena connected with this disease fit in with the microbic theory and that the morbid anatomy is not opposed to it. Rheumatism is mainly a disease of the first half of life; age exercises a great influence on the form in which it manifests itself. The acute febrile and self-limited course of rheumatic fever corresponds to that observed in other fevers of ascertained microbic origin, whilst the non-febrile or only slightly febrile course of some of the conditions claimed to be rheumatic, such as chorea, is paralleled by diphtheritic paralysis and other nervous affections due to toxins. The occurrence of post scarlet fever rheumatism appears to be an example of "the door being opened" (to use the happy expression of Sir William Broadbent) by the former to the latter, as it is by influenza to typhoid fever. The occurrence of several cases of rheumatism in its various forms in succession in the same house, not confined to members of the same family but in subsequent occupiers, recorded by Mantle and other observers, is strongly in favour of the infective—that is, microbic—nature of rheumatism. Newsholme's valuable work points in the same direction. He has pointed out the epidemic or semi-epidemic prevalence of rheumatism. He found that this is associated with lowness of subsoil water and relatively high temperature of the earth, conditions which either probably influence microbic growth or dissemination. Seasonal influence is considerable, as in typhoid fever and cholera, the greater number of cases of rheumatic fever in London occurring in October and November. Rheumatic fever, like typhoid, confers no immunity to subsequent attacks. On the contrary, a person who has once had rheumatism in any of its forms is extremely likely to have it again, but whether this is due to increased proclivity or simply indicates personal predisposition there is no evidence to show. Several observers, such as Mantle, Achelme, and others, have found micro-organisms in the inflamed joints and blood in rheumatic fever, but their results were not pushed to the point of absolute certainty. Wassermann, Westphal, and Malkoff abroad, and Poynton and Paine in this country, have found a diplococcus which agrees in its general characters. The two latter have obtained this diplococcus in pure culture from human rheumatic lesions and have reproduced by intravenous inoculation in the rabbit endocarditis, pericarditis, carditis, pleurisy, pneumonia, nodules, and a nervous condition resembling chorea, as well as polyarthritis and inflammation of the sheaths of the tendons, and found the same organisms in the induced lesions.

An observation of great interest made by Poynton and Paine is that in a culture from a "sore-throat" in a patient with muscular pains, a history of a previous attack of rheumatic fever, and valvular disease the diplococcus was found. It was isolated and cultivated and was injected intravenously into a rabbit, producing in that animal mitral valvulitis and great dilatation of the heart. This observation and the fact that sore-throat so commonly occurs as an early symptom of rheumatic fever suggest that the usual point of entrance of the virus is the tonsil or the pharynx. The observations of Poynton and Paine, especially the experimental evidence, appear so complete as to be convincing. We require further confirmation of these observations before the microbic theory can be said to be established beyond dispute, but Osler and Allchin have boldly transferred rheumatic fever to the category of acute infectious diseases. If confirmed, as I believe these researches will be, what a valuable aid they will be to the precise understanding of the pathology of rheumatism. When the seed is fully identified we may hope to learn from its life-history outside the human body means for the prevention and treatment of this disease.

But I wish to point out that if the bacterial nature of rheumatic fever is fully established the patient work on the clinical side will not have been thrown away, that we shall still have to take account of the soil no less than of the seed, and, as in tuberculosis, the personal factor will remain as important in the future as it has been in the past. If the bacterial nature of rheumatism is conclusively proved we shall still have to take into account individual liability to the disease and to recognise that whilst some persons exposed to wet and cold, especially when combined with fatigue and exhaustion, escape, others similarly exposed are prone to contract rheumatism. Of course, it is well known that many cases occur without such exposure. But Pasteur, Wagner, and others have shown that by exposure to cold fowls (naturally immune) become susceptible to anthrax infection, and Monti has demonstrated that dogs, naturally more resistant than man to the pneumococcus, are taken ill and die from pneumococcic infection solely when they are inoculated after giving them a very cold bath. These facts are suggestive in connexion with the microbic nature of rheumatism. We shall continue to find that the predisposition runs in families and is usually inherited. We shall, in fact, find that the soil is no less essential for the production of rheumatism than is the seed.

APPENDICITIS, OR PERITYPHLITIS.

Appendicitis, or perityphlitis, offers an interesting and instructive study, clinically and pathologically, in connexion with the theme which we are considering. From being regarded, as it was when I commenced the study of medicine, as a rather rare condition it has come to be regarded as a very common one not only by the profession but by the public. Whilst the less acute or less severe forms have been recognised for a long time we have in recent years learnt that the very acute and fulminating cases due to ulceration and sloughing of the appendix causing abscess and perforation account for a great many obscure cases of peritonitis, the nature of which was unsuspected and misunderstood. The increase of our knowledge on the subject has

reached a high degree of precision through the observations of the surgeon, the pathologist, and the bacteriologist. It was, I believe, Sir Samuel Wilks who, in the first edition of his work on Morbid Anatomy and Pathology, emphasised the fact that in inflammation and abscess in the right iliac region—perityphlitis—it was usually the vermiform appendix that was at fault and not the cæcum as was then generally taught. To the surgeons in this country and in America we owe the great extension of our knowledge that in inflammatory affections of the abdomen the appendix was at fault with a frequency not previously imagined and they have pointed out the anatomical conditions in the appendix that favour and predispose the appendix to disease. The bacteriologists have determined the micro-organisms that play such an important rôle as the excitors of the inflammation and its consequences in the appendix. Thus, on the one hand, we have learned that micro-organisms are always concerned in the inflammation, ulceration, sloughing, and necrosis that occur in appendicitis. The bacillus coli communis appears to be the most common—a bacterium in ordinary circumstances saprophytic and harmless but which may become virulent and deadly when growing in diseased tissues. More rarely the pus cocci, the streptococcus pyogenes, the staphylococcus, the proteus, and bacillus pyocyaneus are concerned, and the bacillus typhosus has been found to be the organism at fault. On the other hand, we have learnt that peculiarities of position and anatomical formation of the appendix and its mesentery tend to produce contortions and contractions and interference with the circulation in the appendix which prevent the discharge of its secretions, favour the formation of fæcal concretions, and prevent the expulsion of foreign bodies accidentally entering its canal. In one of these ways the vitality of this portion of the intestinal tract, probably owing to its being a vestigial remnant never so high as other parts of the intestine with active functions to perform, becomes impaired. The organisms in the appendix find a medium which enables them to grow and to multiply, often with intense virulence, by which they inflame or destroy the appendix and pass through its walls to the peritoneum and other contiguous parts. Sir Frederick Treves tells us that "it is impossible not to be struck with the fact that perityphlitis runs often in families," not so much as an inherited disease as a family disease. It is much more frequent in the second and third decennia and in the male sex.

So we find the seed and the soil in appendicitis the excitors of active disease and the predisposing conditions—the personal factor in this disease—each essential for its occurrence. But whereas in tuberculosis and rheumatism we are often able to detect the mischief by the history, the patient's appearance, the evidence of individual predisposition, there is nothing in appendicitis that reveals a tendency to this condition until the occurrence of an attack of appendicitis. Moreover, whilst the tendency to most of the infective diseases is a general one more or less distributed throughout the system, though in each there is a favourite mode of entrance of the virus, here it is an entirely local one extending over an area of only a few inches.

Reviewing the group of diseases which I have selected to illustrate my thesis we have seen that in each there are two factors—the soil and the seed, each necessary to constitute the disease, but that the relative share which they appear to take varies in importance in different diseases. We as practical physicians have to obtain our knowledge as to the micro-organisms concerned in these diseases and their chemio-physiological action from those who devote themselves to these studies, whilst we have to observe the effects of the micro-organisms on the human body and how the body reacts to the germs of the disease. The infective diseases existed long before the discovery of the germs and we have accumulated a large store of knowledge of the clinical course, the treatment, and the issue of these diseases. This accumulated experience is of great value though apt to be overlooked by the keen interest excited by fresh discoveries. It is against this tendency that I wish to enter a protest and to point out that what is true is not necessarily new. We must never forget that the *soil* is of as great importance to study as is the *seed* in the proper understanding and treatment of diseases of microbic origin.

HEALTH OF ST. IVES.—Mr. J. M. Nicholls, the medical officer of health of St. Ives, Cornwall, in his annual report for 1901 states that 197 births were registered during the year, corresponding to a rate of 29·41 per 1000. The deaths numbered 129, equal to a rate of 19·26 per 1000.

A Clinical Lecture

ON A CASE OF

SUPPOSED INTESTINAL OBSTRUCTION, DUE TO A VASCULAR LESION,

RAPIDLY FATAL FROM INCIPIENT GANGRENE OF THE STOMACH AND THE DUODENUM.

Delivered at St. Mary's Hospital on Feb. 25th, 1902.

BY HERBERT W. PAGE, M.C. CANTAB.,
SURGEON TO THE HOSPITAL.

GENTLEMEN,—I promised you a fortnight ago that I would tell you something about a remarkable case of intestinal obstruction which had been under my care recently. The case was one of singular interest and as far as my researches have carried me I believe it to have been unique. You will hear that there was no true intestinal obstruction at all, but nevertheless the case must be so described, for intestinal obstruction was a prominent feature of it and it was intestinal obstruction that I was called upon to relieve. Were I to ask you for the causes of intestinal obstruction you would doubtless be readily able to give me a list, as, for example, obstruction by band, by volvulus or kink, by growths which narrow the lumen of the bowel, by impaction of a foreign body, by accumulation of fæces, by any form of strangulation whether external and visible or internal and out of sight, and these various conditions you might speak of as true causes of obstruction in that they severally interfered with the lumen of the bowel and prevented the onward passage of its contents. And if I pressed you further you might remember other causes which rather may be regarded as those of false obstruction in that there is no mechanical interference with the lumen of the gut—the paralysis of bowel, for example, such as you may meet with from sundry nervous conditions, or the distension which may arise in the course of peritonitis when all peristalsis has been lost. Your list would be fairly complete, but I doubt whether you would think of vascular lesion alone as being a possible cause of intestinal obstruction. And yet there have been cases recorded from time to time where a vascular lesion—thrombosis of the superior mesenteric vein, for example—has given rise to symptoms of intestinal obstruction for which operation has been undertaken. I shall presently refer to a case of this sort which was brought before the Clinical Society of London by Dr. J. Rose Bradford and there have been other cases like it.[1] We ought, therefore, to have this cause of intestinal obstruction in mind, although from its exceeding rarity we may hardly expect to meet with a case ourselves. Now let me tell you of my own case.

On Monday, Feb. 10th, I was sent for by my friend and former house surgeon, Dr. J. A. Wright, to see a patient with intestinal obstruction and to come prepared to operate. I went and this was the story which I was told. The patient, a man aged 50 years, thin and spare, had enjoyed the best of health until three and a half years previously, when he had a very bad attack of typhoid fever which kept him in bed for some 10 weeks and which was complicated by thrombosis in the right leg. His health had never been the same since; he had lost his former strength and his capacity for continuous work. In the summer of 1899 he had thrombosis in the left leg following a bicycle accident and again in the spring of 1901 he was laid up for a month with thrombosis of the left femoral vein. I ask your special attention to these several attacks of thrombosis for they go far to explain his present illness. A week previously he had had rather a bad cold and had stayed indoors, but on the afternoon of Feb. 9th (Sunday) he was able to go out for a country walk. During the walk he was suddenly seized with pain above the umbilicus and this was soon followed by diarrhœa. As a matter of fact he had to relieve himself behind a hedge more than once, and

[1] Notably since this lecture was given the case of "Intestinal Obstruction due to Embolism of a Branch of the Superior Mesenteric Artery" brought before the Clinical Society of London by my friends Dr. W. J. Tyson and Mr. W. W. Linington of Folkestone, on April 11th (see THE LANCET, April 19th, 1902, p. 1109). Coffee-ground vomit was there also a prominent symptom.

the pain continuing he was obliged to rest in a cottage. Here the pain continued and the diarrhœa was more profuse. In about an hour he was able to get home and Dr. Wright first saw him at half-past five o'clock. The diarrhœa had then ceased and the pain was less, but there was much uneasiness or discomfort in the epigastrium and he felt as if he must be sick. He was cold but was not collapsed. At 9 P.M. when Dr. Wright next saw him he was restless and had considerable epigastric pain. He had vomited a little. Flatus had been passed from the bowel. Abdominal examination was negative. A subcutaneous injection of morphine and atropine was administered. The night was broken and he had occasional vomiting of a small quantity of odourless coffee-coloured fluid. There was some hiccough. Before daylight there was a return of the epigastric pain and at 6 A.M. the injection was repeated. At 10 A.M. he was fairly easy, but he still had epigastric pain and there was slight tenderness. The pulse ranged from 90 to 100. The temperature in the axilla was normal. Abdominal examination was again negative; there was no distension whatever. A rectal examination discovered nothing and a soap-and-water enema was entirely without result. At 1 P.M. Dr. Wright detected some resistance and tenderness midway between the umbilicus and the left costal margin and these became more marked in the course of the afternoon. The other symptoms continued and no flatus was passed. The pulse rose to 120.

I saw the patient soon after 7 P.M. It was obvious at once that the man was extremely ill, and from his aspect alone I formed a grave prognosis. His pulse was then 108 and it was occasionally intermittent; he was vomiting copious quantities of the coffee-coloured liquid. The abdomen, which was absolutely flaccid, moved on respiration and was free from all suspicion of tenderness save only between the umbilicus and the left costal margin where were the resistance, the slight fulness, and the tenderness which Dr. Wright had described. It was clear that operation, if to be undertaken at all, could be delayed no longer. And I must tell you frankly that I never undertook an operation with less idea as to what could be the matter. Every conceivable lesion had been turned over in our minds: Dr. Wright himself even went so far as to suggest embolism of an intestinal vessel. A kink from former typhoid ulceration was one of the more unusual things which occurred to us, but from the symptoms and history the seat of probable obstruction was presumably high up in the intestinal tube, while kink the result of typhoid fever would rather be low down. It was under these unsatisfactory conditions that I opened the abdomen in the middle line above the umbilicus. A remarkable state of things was immediately disclosed. The stomach was seen to be enormously tense and distended, dark purple in colour, with here and there small flakes of lymph upon its surface, and conveying the impression that it would not bear much handling. Had it been a piece of gut exposed in operation for strangulated hernia I unquestionably should have hesitated to return it to the peritoneal cavity, for it had all the appearances which indicate approaching gangrene. It was suggested to me that I should puncture the stomach and let out the contents, but I felt that this would be a dangerous procedure as there might be difficulty in closing the opening. My search was next directed to the discovery of some cause for the supposed obstruction, and the bowel, large and small, was therefore systematically examined from end to end. Both large and small were found to be empty; I may say, in fact, that I have never seen small bowel so completely collapsed. Tracing it upwards no cause of obstruction was anywhere to be found, but as we approached the stomach so did collapsed bowel of natural colour gradually merge into distended and discoloured bowel until at its union with the pylorus the duodenum was seen to be enormously dilated like the stomach, and here, also, it had the purple colour and structural change which have already been described in the stomach itself. Satisfied that there was no mechanical cause for obstruction and that none could possibly have been overlooked, there was nothing left to us but to close the wound. The condition of the patient was now extremely grave; there was profuse vomiting, and at one time we thought that he must die on the operating table. Happily that was obviated and he rallied sufficiently to talk to his friends. He died three hours afterwards.

We had now little doubt in our minds that a vascular lesion was at the root of the patient's symptoms and of the singular state of things which we had seen in the stomach and the duodenum. And here I am sorry to tell you that our story is incomplete. A partial necropsy was made by Dr. Wright through the operation wound and if you think of the difficulties of a necropsy unassisted in a country house it will hardly surprise you that the post-mortem record is not as complete as we could wish. Nevertheless, very valuable information was obtained and I will read to you Dr. Wright's notes. "The parts," he says, "looked very much the same as at the operation. I took out the whole gut, beginning at the sigmoid flexure. It was practically empty and collapsed until the beginning of the duodenum was reached. There was no obstruction whatever to be found at this or at any other place, but from it to the cardiac end of the stomach the whole length was hugely distended, even the pylorus being dilated. On opening the stomach there were about two pints of the dark, fluid, altered blood. The stomach and duodenum were stained with it, but none of the fluid had passed any further downwards in the intestine. There was certainly some difference in the mucous membrane of the stomach and duodenum as compared with the rest of the gut. The stomach-wall was greatly stretched, the veins were engorged, and on its anterior surface there was very slight superficial ulceration. Running here and there were some peculiar raised patches which looked most like thickened tortuous blood-vessels. I searched very carefully for arterial clot but could find nothing to swear to." In answer to further inquiry Dr. Wright told me that there was certainly no plugging of the portal vein itself.

This, then, is all the post-mortem evidence which I can give you, but yet I think there is hardly room for doubt that a vascular lesion was after all the real cause of the symptoms and of the state of the stomach and duodenum. Nothing else could well have accounted for them. I will give you the reasons for this conclusion.

First, there is the evidence of other cases of a like kind, and here I cannot do better than tell you of Dr. Rose Bradford's case,[2] entitled, "A Case of Thrombosis of the Superior Mesenteric Vein causing Intestinal Obstruction." A man, 20 years of age, was seized in the night with pain in the upper abdomen and he felt sick, but he was able to go to work in the morning. He was worse on the second day and on the third day he had diarrhœa. Then he took to bed. On the sixth day he went to University College Hospital and the summary of his history from that day to the eleventh day is in these words: "Since admission patient had remained in much the same condition, complaining of a good deal of abdominal pain, especially at the umbilicus and between this and the costal margin. The abdomen is not distended; if anything it is slightly retracted. There is no marked tenderness on palpation. Patient has had slight occasional vomiting of the contents of the stomach and the bowels have not been opened without enemata, but with these normal motions have been obtained." The scene then changed. The man began to vomit frequently and on the thirteenth day the pain was still more severe and the vomit, which had become incessant, was distinctly stercoraceous. He was worse on the day following and "it was decided to open the abdomen as it was thought that there was some form of intestinal obstruction." A piece of the small intestine about a foot long was found to be greatly swollen and thickened and purple in colour. There was no volvulus and no constricting band was found. There was a little reddish fluid in the peritoneal cavity and a little lymph on the intestine. The patient did not survive the operation long and at the necropsy "a coil of small intestine at the upper part of the jejunum was seen to be dark-purple in colour and considerably swollen and thickened for a distance of about 18 inches. There was no band or other cause of strangulation. The mesentery was thickened and the veins were obviously thrombosed. The trunk of the superior mesenteric vein was greatly thickened, the wall of the vessel being as thick as the wall of the superior mesenteric artery. The vein contained flakes of coagulum adherent to the inner surface and forming an almost continuous layer of decolourised blood-clot. The lumen of the main vessel was filled with reddish puriform material. The upper part of the vein was occupied by firm, partly decolourised, clot. The disease of the superior mesenteric vein extends into the main tributaries of this vessel—to a varying extent, however, in different ones. As the intestine is approached the thickening of the walls of the veins becomes less and less marked, until in most of the terminal branches the walls of the veins have their normal

[2] Transactions of the Clinical Society of London, vol. xxxi., p. 203.

thickness and appearance." Those are the chief facts and I need not quote more, for they are sufficient for my purpose, which is to show you that plugging of a superior mesenteric vein may lead to symptoms suggestive of intestinal obstruction and that operation may be undertaken to discover and relieve the condition in the absence of any certain diagnosis. Were there no other cases of the kind, this case recorded by Dr. Rose Bradford would of itself be sufficient to suggest that a similar vascular lesion must have been present in our case. The patient's own history is, however, not less suggestive. You remember that on three previous occasions he had had attacks of thrombosis, and whatever may be the causes of blood-clotting in veins I think we may say that in some way or other this man was predisposed to the same thing again. The suddenness of onset, moreover, of the attack on this last occasion was very suggestive of a sudden vascular lesion and I venture to think that nothing else could possibly have produced in so short a time as 24 hours the striking changes which were found in the stomach and duodenum. I believe, moreover, that venous rather than arterial thrombosis must have been the cause of the impending gangrene. Dr. Wright has told us that he searched carefully for arterial clot but found none. Furthermore, the valves of the heart were healthy and free from vegetations from which an embolus might have been detached and lodged in some vessel. I hold, therefore, that we are justified in the conclusion that venous thrombosis was the actual disease and that we may regard the coronary vein and its tributaries, and in all probability the pyloric vein also, as having been the vessels affected.

It will interest you to know that an excellent account of all the conditions pertaining to thrombosis is to be found in Allbutt's "System" from the pen of Professor Welch. This is accessible to you in the library, but I will read one short passage which bears upon our present case:—"The symptoms"—he is writing of thrombosis of the mesenteric veins—"are the same as with occlusion of the mesenteric arteries, but as a rule are even more violent and rapid in course. They are as follows: sudden onset of very intense, colicky, not definitely localised, abdominal pain; distended, tender, tympanitic abdomen; vomiting which may be bloody; obstipation, or bloody diarrhœa; and rapid collapse, with cold sweat and subnormal temperature. The diagnosis is likely to be acute ileus and laparotomy to be performed. Death generally occurs within two or three days. The symptoms may, however, be less violent and the course less rapid than those mentioned. At the autopsy are found hæmorrhagic infarction and gangrene of the intestine, hæmorrhages in the mesentery, bloody fluid in the peritoneal cavity, and sometimes, although not regularly, peritonitis. The cases without symptoms have been usually thromboses of slower formation, but this does not appear to have been always the case."

Such, gentlemen, is the story which I bring before you. A consideration of it is not likely, I fear, to lessen the difficulties which beset the diagnosis and treatment of intestinal obstruction. Of all the conditions which may present themselves at operation this surely of which I have spoken is the least amenable to relief. Nevertheless I commend it to your notice preparatory to the wider publication which I think it deserves.

I am indebted to Mr. Arthur E. Fidian for shorthand notes of this lecture.

THE CONGENITAL FACTOR IN HERNIA.[1]

BY R. HAMILTON RUSSELL, F.R.C.S. ENG.,

SURGEON TO THE ALFRED HOSPITAL, MELBOURNE; LATE SURGEON TO THE MELBOURNE HOSPITAL FOR SICK CHILDREN.

IT may perhaps be within your memory that at the last meeting of our congress at Brisbane I contributed a paper to the transactions of this section entitled, "The Etiology and Treatment of Inguinal Hernia in the Young,"[2] and I placed before you certain important conclusions at which I had arrived in respect of the etiology of inguinal hernia in young children. My operative experience of 60 cases was very small, it is true, when compared with the enormous series that are frequently placed before us by surgeons at the present day; but I would point out that my series was an indiscriminate one, comprising an unbroken record of every case of inguinal hernia that had come into my hands during a certain period, and that the evidence afforded by an indiscriminate series of 60 cases when that evidence is unanimous is more weighty than any evidence that could be deduced from 600 cases that have been selected by reason of certain clinical characters that were deemed to call for operation.

The conclusions at which I arrived and which I believe to be of fundamental importance for a clear understanding, not merely of inguinal but of all other forms of abdominal hernia, I will set forth in the following propositions:—1. Oblique inguinal hernia is invariably caused by the presence of a congenital sac which in the vast majority of cases is provided by patency of the whole or a portion of the processus vaginalis. 2. There is no evidence in favour of the view that congenital weakness of the abdominal wall in the inguinal region is a factor in the causation of inguinal hernia. 3. While actual weakness of the abdominal wall in the inguinal region is frequently met with and is an occasional cause of recurrence after operation, such weakness is not congenital but is an acquired weakness due to the existence of the hernia and the use of a truss during a lengthened period. 4. Complete removal of the sac, when performed before the abdominal wall has sustained such damage, will not be followed by recurrence. 5. The causes of recurrence after operation are three in number—viz., (1) the above-mentioned acquired weakness; (2) incomplete removal of the sac; and (3) traumatism, the result of misguided methods of operating.

These, then, are my articles of faith; the arguments on which they are based have been already published very fully[3] and I do not intend to trouble you with them again. The only new argument that I will bring forward to-day, if you will be so courteous as to regard it as an argument, is this. My former series of 60 cases has in the last two years been extended to well-nigh double that number, with the result that so far from having observed anything to shake my belief my confidence in the truth of the foregoing statements has been redoubled. To-day I will ask you, whether you agree with me or not, to assume for a few minutes that my views are correct, for I wish to suggest to you that they apply equally to inguinal hernia in the adult—that there is no difference etiologically between the inguinal hernia of children and that of older people and that the management of the affection in either case will be the same in principle, differing somewhat in detail but differing only by reason of certain factors that are often imported into the case of the adult but from which the young child is free.

When hernia has existed for some years the inguinal canal becomes converted into a large hole in the abdominal wall, because the curved fibres have been stretched, atrophied, and displaced during a period of years and are quite incapacitated from performing their natural function as the inguinal sphincter. This leads me at once to draw your attention to one of the singular and fundamental errors that have pervaded the whole theory of inguinal hernia. The belief is almost universally held that inguinal hernia is often the result of some congenital weakness of the inguinal abdominal wall which permits the descent of a rupture. This generally accepted view is the exact converse of that which I believe to be the truth, for instead of the weakness being congenital and the hernia consequently acquired it is the hernial sac that is congenital and the weakness that ultimately becomes acquired. It is of the utmost importance that this fact should be appreciated, for its teaching, when reduced to practice, means that if on the first occurrence of hernia the sac be removed the abdominal wall will thenceforward be unimpaired and the patient will be no more predisposed to recurrence than he would have been if he had never had a congenital sac and had never had a hernia.

Let me illustrate this point by citing the case of a man, aged 24 years, who became suddenly ruptured while playing football in August, 1899. At the operation four months later the bowel was found to have entered one portion of a bilocular congenital sac; the entire sac was ligatured at the neck and removed after incision of the external oblique aponeurosis but no attempt was made to close the canal by sutures. The patient was kept in bed for a fortnight and was told to exercise caution for a month afterwards; after

[1] A paper read before the Surgical Section of the Intercolonial Medical Congress of Australasia, Hobart, Tasmania, February, 1902.

[2] THE LANCET, Nov. 18th, 1899, p. 1353, and Intercolonial Medical Journal of Australasia, Sept. 20th, 1899.

[3] THE LANCET, Nov. 18th, 1899, p. 1353, and Oct. 20th, 1900, p. 1128.

that he was allowed to return to his arduous work and to indulge without stint in athletic exercises. For the last two seasons he has been as distinguished in the football field as he was before the operation and is one of the best forwards in a football team. I have quoted this case in order to illustrate a point, which is this—the sac was unquestionably congenital and was the essential cause of the hernia, no matter what the immediate cause might appear to be, and simple removal of the sac was efficient in curing the hernia absolutely. We quite discarded any theory as to the local weakness of the abdominal wall; but please to note that the condition that warranted us in discarding that theory was the fact that the hernia had existed for only four months—too short a time for any very serious damage to result to the abdominal wall from its presence. But supposing that instead of four months four years had been allowed to elapse, then we should have had no such confidence and the precautions against recurrence that would have had to be adopted would have been much greater and more extended in time, for some local weakness of the abdominal wall would certainly have been acquired. Again, supposing that instead of for four months or for four years the patient had worn a truss for, say, 40 years; at the age of 64 years there would have been a gaping aperture in the abdominal wall which would manifest no tendency to close after the sac was removed; it would then be closed by Bassini's method which in my opinion is by far the best of its kind, but the assurance of success would be much diminished. Furthermore, I think that were such a case presented to us just now some of us might receive with incredulity an assertion that the sac was congenital.

Among the children upon whom I have operated—some 115 in number—I know of only two in whom there has been anything in the nature of a recurrence. In both these cases the recurrence consisted in a slight yielding of the abdominal wall, the result of the acquired weakness. Both occurred two or three months after the operation and both were remedied by the use of a light truss for three months. One patient was a boy, aged 10 years, who had worn a truss from infancy and he brought about the recurrence through attempting some acrobatic feats; the other, a child five years of age, fell out of a tree on to his stomach. In cases where a truss has been worn for any length of time such severe tests as this should be carefully guarded against for 12 months, after which I think it probable that the inguinal canal will be safe, especially in the case of a growing child.

The laxity of the peritoneum in the neighbourhood of the inguinal region is a matter to which I have not previously alluded, although it plays an important part both in respect of the incidence of hernia and of its operative treatment. Physiologically it is of course adapted to meet the requirements of the bladder in its varying conditions of collapse and distension. To this laxity of the peritoneum we owe several things. In the first place, we are largely indebted to it for the occasional occurrence of direct inguinal hernia in young people—a rare affection which would, I think, be impossible were it not for the voluminous arrangement of the peritoneum at this place. It would seem that this form of hernia can occur suddenly and independently of the presence of a pre-formed sac, in which case it is probably the only form of abdominal hernia that can do this and it will therefore be the only form of hernia to which the time-honoured name of "rupture" can properly belong. In the course of operative treatment, however, the looseness of the peritoneum stands in good stead, for it enables the operator to pull down the neck of the sac so as to bring it easily within reach when he desires to apply the ligature. But there are certain circumstances that interfere with the application of the ligature to the neck of the sac and these are of great importance and, strange to say, they have been sadly overlooked by writers on hernia. There are two such conditions to which I will refer—(1) the close relationship of a portion of the bladder to the neck of the sac; and (2) hernia of the sigmoid flexure on the left side. I have elsewhere called attention to the frequency with which the bladder, or a diverticulum from it, has been seen at the neck of the sac in operating for hernia in children; and of late I have seen with increased frequency a portion of that viscus in operating upon adults. Now, it is obvious that where the bladder intrudes its presence at the neck of the sac the application of a ligature at the surgeon's seat of election will be interfered with. I have found, however, that in such a case the bladder may be quite easily peeled off the sac—a proceeding that is facilitated by the introduction of the index finger into the latter structure.

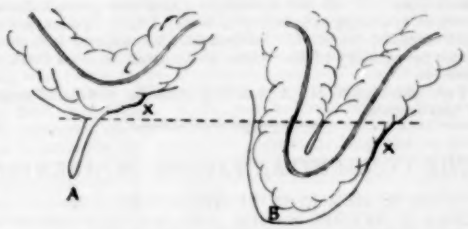
It appears to me that a great deal of unnecessary mystery has been imported into the subject of hernia of the bladder, the etiology of which is quite simple, and, further, I do not think that it need ever be a serious obstacle to the satisfactory clearance of the inguinal canal. In a word, I see no reason to doubt that hernia of the bladder is always secondary to an ordinary hernia and is an accidental result of the dragging down of the vesical peritoneum through the hernial orifice.

I come now to a form of inguinal hernia which presents points of similarity to hernia of the bladder—hernia of the sigmoid flexure on the left side. I cannot understand how the importance of this variety of hernia has come to be so under-estimated by authors. In my experience it has proved to be of remarkable frequency and it requires very special management, in default of which recurrence is almost sure to take place. Yet, strange to say, on consulting authorities I find only the most cursory allusion to it and nowhere have I found any adequate description of an appropriate mode of dealing with it. In this variety of hernia part of the peritoneal reflexion which invests the sigmoid flexure enters into the formation of the sac, so that a certain portion of the sac is intimately connected with the gut. It therefore becomes impossible to ligature and to remove the sac in the ordinary way; while to be content merely with removing the free portion of the sac and to push the upper portion of it with the attached bowel back into the abdomen would be to perform a very imperfect operation and to court failure, no matter what ingenious device might be adopted with the vain and futile purpose of fortifying the abdominal wall and closing the canal by sutures.

With regard to the etiology of this form of hernia it appears to me a most remarkable circumstance that all authors seem to agree that it is of congenital origin, while they say really very little about it. Now I hold that all forms of oblique inguinal hernia are of congenital origin, but the only form that has given me pause and caused me some hesitancy is this particular form which we are discussing. Why surgeons who believe that inguinal hernia is commonly acquired should look upon this form of all others as congenital I am at a loss to conceive, for the truth is that it is met with only very seldom in childhood but very frequently in adults. In 115 operations for hernia in children I have met with this variety of hernia only once, while in a relatively inconsiderable series of adult operations I have met with it three times. The ages of my patients have been 2, 22, 32, and 68 years. With respect to the etiology of this condition I have no doubt whatever that it is fundamentally the same as that of all other varieties of inguinal hernia and that we must look to the presence of a congenital sac in the inguinal canal, which is probably always in this case a portion of the processus vaginalis unclosed.

These two diagrams (Fig. 1, A and B) will serve to indicate

FIG. 1.



The spot marked X corresponds in both figures and indicates the involvement of the bowel with the sac.

the mode of formation. The first figure (A) shows that the peritoneal process has been derived from that portion of the serous membrane which is in the immediate vicinity of the sigmoid flexure, so that this portion of bowel lies bound down close to the mouth of the opening. If hernia is to occur at all into this open tube it will almost necessarily be the sigmoid flexure which will come down, and it seems not unreasonable to assume that this occurrence is in such a large number of cases delayed for years by reason of the substantial nature of the large bowel and its fixation close to the neck of the sac rendering it less favourable to protrusion than would have been the case if the smaller gut was presenting. The second figure shows what happens when the

bowel does at length descend into the sac. By reason of its attachment to the peritoneum at the mouth of the sac this portion of the peritoneum is subjected to traction such as could not be exerted by a herniated portion of small bowel, and as the peritoneum in this neighbourhood is lax and voluminous it readily becomes dragged down in such a way as to produce the condition which we are considering. The correct management of this kind of hernia is of great importance and it is very simple. The portion of the sac to which the bowel is attached should be cut away from the remainder and returned into the abdomen with the gut; this is effected by running the scissors up on either side of the prolapsed gut as high as possible, and after the bowel has been returned the remainder of the sac may be ligatured and removed in the ordinary way. Of my cases, the man aged 68 years had worn a truss for 30 years; the hernia was very large and irreducible; the opening in the abdominal wall was enormous and was closed by Bassini's method. The man aged 32 years, who was an officer in the merchant service, and the child were both treated by simple removal of the sac as I have just described. All three were operated upon more than three years ago and all are free from recurrence. The man aged 22 years was operated upon only three months ago. In all the adults the canal was opened up by incision of the external oblique aponeurosis; in the case of the little child I considered this step unnecessary.

Whatever divergence of view there may be as to the part played by the congenital sac in inguinal hernia, when we turn to femoral hernia there would at first sight appear to be no room for doubt. All authors are agreed that femoral hernia is always acquired; the anatomy of it is simple and there is no funicular process to complicate matters, so that it would appear as though I was on safe ground when at Brisbane I made the following allusion to the subject: "Femoral hernia is the type of the true acquired hernia. The anatomical structures concerned are eminently favourable to it; the clinical manifestations are consistent with it, and they are consistent with nothing else. ..... To put it tersely, in femoral hernia it is the hernia that forms the sac; in inguinal hernia it is the presence of a sac that causes the hernia." I am glad now to find that in the succeeding sentences I indicated some doubt as to the absolute truth of the foregoing statement, for since we last met, three years ago, I have entirely changed my opinion as to the etiology of femoral hernia. I now believe that, like inguinal hernia, femoral hernia is caused essentially and typically by the presence of a congenital sac in the crural canal, and the question as to which I am in some doubt is not whether femoral hernia is ever of congenital origin, but whether it is ever truly acquired.

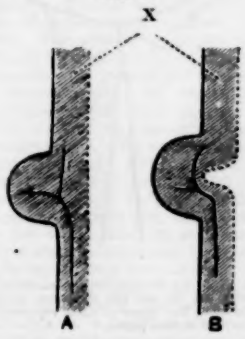
In order to arrive at the explanation of the congenital sac of femoral hernia we have to go back to the second month of fœtal life, at which period the appearance of bud-like processes, four in number, on the surface of the embryo signalises the commencing development of the limbs (Fig. 2). A section made of one of these limb-buds and the adjacent body wall (Fig. 3) will show

FIG. 2.

Diagram of embryo at about fourth week, showing commencement of limbs.

the parietal layer of the mesoderm throwing out its bud, which is covered by the ectoderm externally and lined internally by a specialised layer of its own cells, which become flattened and ultimately develop into the endothelial cells of the peritoneum. Now, it would seem that all the important changes in the development of the embryo are accompanied by the development in the evolving structures of a vascular system, at first absolutely simple and direct in plan, but which, through having to follow the varying contortions of the developing mass, becomes likewise contorted and apparently eccentric in arrangement. I imagine that every artery and every portion of an artery in the body, no matter how tortuous its arrangement may be now, at its inception took the shortest and most direct route from its origin to its termination; its course was, in fact, a straight line and the arterial tortuosities with which the dissecting-room has made us familiar may be regarded as an accurate though necessarily imperfect sketch-in-outline of the embryonic changes that have culminated in the full development of the organ to which the artery is distributed. This is most clearly seen in the larger arteries, especially those of the head and trunk, but wherever we find an artery taking a

FIG. 3.



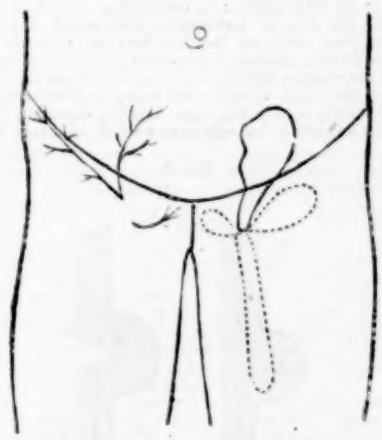
Diagrammatic section of posterior limb-buds; in B, formation of peritoneal pouch is shown. The shaded portion represents the mesoderm; the dotted lines the layer of cells destined to form the peritoneum. X, Abdominal wall.

circuitous route or coming off from its parent trunk at such a point that it has, as it were, to retrace its steps in order to arrive at its area of distribution, we may safely take it as a guide to aid us in understanding what went on in the process of development. It will suffice to suggest as instances, taken almost at random, the peculiar windings of the pudic artery; and, again, no instance in the body is of more immediate interest than the developmental history attaching to the little ascending palatine branch of the facial which runs vertically upwards beside the wall of the pharynx, passes over the top of the superior constrictor, and then down again with the levator palati muscle on to the upper surface of the soft palate.

I wish now to direct your attention to a group of humble little vessels, branches of the common femoral artery, the superficial circumflex iliac, the superior external pudic, and, especially as the most typical and useful for our purpose, the superficial epigastric which turns upwards across Poupart's ligament to be distributed on to the abdominal wall (Fig. 4). Why does it take this course? The reason will be at once evident when we refer to the first beginnings of a vascular system in the embryonic limb-bud. The first branches that are given off from the main artery will be distributed to structures that are destined to form part of the abdominal wall, so that when in the course of development the groin becomes deepened, and the limb having become lengthened prepares to pass through an arc of about 145° or more to attain its permanent relationship with the trunk, it is at once seen how it comes about that the superficial epigastric artery and its companion follow the course that they do. Turning again to the diagram of the limb-bud it is easy to understand that in the initial steps of its development there is a distinct possibility that a little pouch from the wall of the pleuro-peritoneal cavity may be involved in the projecting process (Fig. 3, B). This is just the kind of developmental accident that is certain to occur sometimes, and when it does it is obvious that the future of this diverticulum will be subject to precisely the same influences that have determined the peculiar course and position of the superficial epigastric artery and its fellows. To put it plainly, the sac of a femoral hernia, when it turns upwards over Poupart's ligament or

outwards towards the iliac spine, as it frequently does, occupies that position because it always has occupied it ever since the early embryonic period which witnessed the commencement of the limb. The fundus of the sac became accidentally involved with the abdominal wall then and the development of the limb and its assumption of its normal

FIG. 4.



On the right limb are shown the branches of the common femoral artery; on the left the situation occupied by the large femoral sacs. The upper of these represents accurately the case described in this paper.

position have brought about such lengthening of the sac as obviously will be inevitable.

In cases of femoral hernia in which the sac simply protrudes at the saphenous opening, and they constitute the very large majority, the difference is simply a difference in the size of the sac—that is to say, at its origin the pleuro-peritoneal pouch was too short to become implicated with the abdominal wall.

Let us now see how our theory agrees with the observed clinical features of femoral hernia. It is well known that when femoral hernia attains a large size it has a tendency, after emerging from the saphenous opening, to turn upwards across Poupart's ligament, or more commonly upwards and outwards towards the iliac spine. Surgeons have never been quite satisfied with the theories that have been advanced to explain this circumstance; this is not very surprising, seeing that it has been found necessary to invent and to adopt erroneous explanations because the true one has been missed. There is no conceivable theory which will explain why in one case a large femoral hernia should pass upwards on to the abdomen, in another case downwards almost to the knee,[4] and in yet other cases outwards in the same direction as the circumflex iliac vessels or inwards and upwards to the scrotum or labium,[5] except the theory of congenital origin of the sac; and this explains it perfectly when we come to consider the mode of development of the limb and the variation in the ultimate destination of the sac that may be induced by slight accidental differences in position at the time of its inception. Assuming this view to be correct, the fact that in one case a femoral hernia will enlarge painlessly to a great size and in another will be unable to increase beyond the size of a walnut presents no difficulty; it is a question of the original size of the sac. The large hernia while it is steadily increasing in size is increasing not by gradual enlargement of the sac but by gradual lengthening of the mesentery. The long mesentery observed in hernia has been regarded, I believe quite erroneously, as a contributing cause of hernia, whereas it would appear with more probability to be the result of the presence of a large sac.

A few weeks ago I removed from a woman a large femoral sac which is accurately represented in Fig. 4. She gave the history that for six years it steadily enlarged and then for three years she wore a truss, so that it had existed nine years in all. During the six years while it was growing it gave her so little pain or inconvenience that she could tell me very little about it, it used to disappear when she lay down at night, but she never noticed how it disappeared or how long it took to do so; in fact, she took no intelligent notice of it whatever. Then eventually she consulted a lady practitioner who advised her to wear a truss, which she did for three years. When she came to me for operation there was no hernia to be seen, but the large sac filled with peritoneal fluid when she stood up without the truss, forming a large hydrocele on the front of the groin and abdomen. The case is a rare one but by no means without precedent. You will notice that a small loculus or diverticulum is shown (Fig. 4); this is a very commonly-seen feature of the congenital sac of the inguinal canal and is, I believe, an almost invariable accompaniment of imperfect descent of the testis, although it is often seen where the descent of the testis is perfect. As I have elsewhere pointed out it constitutes the anatomical basis of interstitial and pro-peritoneal hernia.[6]

I am afraid that I shall disappoint you if you look for the announcement of a royal road to the cure of femoral hernia based upon the theory of the congenital origin of the sac. The only effect upon our operative procedure, and that effect is one by no means to be despised, will be to cause us to abandon vain endeavours to block the crural canal or to close the crural ring by sutures or other device. The first step in the establishment of a sound method of treatment must always be to seize upon sound pathological principles to be our guide and the only deduction I am able to draw from the view that the femoral sac is congenital is that removal of the sac from the femoral canal is the essence of the treatment, that the fault lies in the presence of the sac and not in the construction of the canal, and that we are thereby directed to remove the sac and to leave the canal alone. How best to remove the sac I am a little uncertain. I have hitherto always contented myself with ligaturing the sac as high up as possible, but other methods for removing the stump from the neighbourhood of the crural ring have been suggested and are good in principle. But the point is clear that whatever means are adopted to achieve this object are certain to be more efficiently carried out if we quite understand that the essential feature of the operation is the removal of the sac and not any form of obstructive treatment applied to the crural canal.

I should like to add a very few words with reference to the occurrence of hernia in situations other than the inguinal and crural canals, such as the obturator and ischiatic foramina. Is there also a pre-formed sac in these situations? I may answer the question as far as I myself am concerned by saying that if I could believe that a hernia could pass through the obturator or ischiatic opening in the absence of a congenital sac I should scatter to the winds the views which I now hold on the subject of hernia and be prepared to believe anything. All our knowledge of the nature and capabilities of the intra-abdominal pressure and of the difficulty that it experiences in forcing a hernia even into a congenital sac forbids absolutely the belief that it could ever be enabled to force a piece of bowel or omentum through such small apertures as those which I have mentioned, pushing the peritoneum and fascia before it. On the other hand, the occasional presence of a pouch of peritoneum in these situations is not by any means a source of perplexity, but, on the contrary, is only what we might expect. Whenever structures like the obturator and ischiatic vessels, that inside the abdomen are in intimate relation with the peritoneum, pass outwards in the course of development it is easy to understand that occasionally a little of the peritoneum may be made to accompany them for a short distance; and I would suggest that if some of our pathological friends who have the opportunity of making large numbers of post-mortem examinations would examine these hernial orifices in a large number of bodies they would be enabled to make some very valuable and interesting observations with reference to this matter.

In conclusion, let me explain in a very few words why I have not troubled you with any statistics. This is not, I am happy to say, because there is anything for me to conceal or because they would show anything to weaken my contention as to the congenital origin of the hernial sac. If, however,

[4] Macready, Treatise on Ruptures, p. 168.
[5] Ibid.
[6] Intercolonial Medical Journal of Australasia, May 20th, 1900.

there is one thing more than another with which I have been impressed by discussion of this subject it is the absolute inutility of mere statistics. Statistics are valueless and misleading unless we bring to their interpretation sound and correct pathological or etiological principles; but the principles must come first. If we put the statistics first and try to extract principles from them we shall not only fail but we shall certainly be misled. The reasons for this will be sufficiently obvious if you will think the matter out but I will not detain you by dilating upon them, for I have already occupied your time sufficiently. My aim has been to show cause and to afford a stimulus for a fresh scrutiny of the subject of hernia and I shall be well satisfied if this contribution to the proceedings of this section of the Congress should prove to be of some utility in furthering the rational and scientific treatment of one of the most common and important of the ailments with which we as surgeons are called upon to deal.

Melbourne.

COMPLETE RELAXATION OF THE ABDOMINAL WALL UNDER ANÆSTHETICS.

BY J. BLUMFELD, M.D. CANTAB.,

ASSISTANT ANÆSTHETIST TO ST. GEORGE'S HOSPITAL; ANÆSTHETIST TO THE GROSVENOR HOSPITAL.

CASES of operation upon the abdomen are those, perhaps, which more severely than any other test the anæsthetist's skill in his endeavour to secure that condition of the patient which gives the greatest facility to the surgeon in his manipulations. In many cases much of the difference between an easy operation and a difficult one lies in the extent to which the anæsthetist has or has not secured a flabby condition of the abdominal walls and an absence of tendency to protrusion on the part of the intestines. In most cases such a state—the *ultima Thule* of the abdominal surgeon's desire—is obtainable if the proper anæsthetic, which is generally chloroform, is employed to the proper degree, which is generally a very deep one. There are, however, some cases in which this complete relaxation and quiet breathing are very difficult and others in which they are, I think, impossible of attainment. The reasons for such difficulty may be examined with advantage and the proper steps decided upon for overcoming it when possible.

The desired condition of the abdomen depends on three main factors: (1) absence of excessive respiratory vigour; (2) absence of contraction of the recti abdominal muscles; and (3) normal character of the respiratory movements. To ensure the coöperation of these factors some purely physiological considerations must be borne in mind. For it is the object of the anæsthetist to avoid in every way what is known to the physiologist as forced respiration. In normal breathing the tendency of the diaphragm to pull inwards the sternum and lower ribs has little effect. In forced inspiration, especially where there is any obstruction to the entrance of air into the lungs, the lower ribs may be so much drawn in by the contraction of the diaphragm that the girth of the trunk at this point is obviously diminished. By such contraction the epigastrium is affected. Similarly with expiration, even in normal breathing, the elastic return of the abdominal walls is probably accompanied and assisted by contraction of the abdominal muscles. When expiration becomes laboured these muscles become important expiratory agents. By pressing on the contents of the abdomen they thrust them and the diaphragm up towards the chest. In laboured respiration the expiratory events are especially augmented.

The activity of the respiratory centre is acutely affected by changes in the quality of the blood distributed to the medulla and by nervous impulses reaching the centre along various nerves or nerve tracts. The more venous the blood the greater the activity of the respiratory centre. Nervous impulses may increase or diminish the depth of breathing and may slow or quicken its rate. There is not, Foster says, an afferent nerve in the body which may not be the instrument of influencing the respiratory centre. Certain nerves are more closely connected with it than others and the most conspicuous and important are the vagi. It is easy to understand, therefore, why in abdominal operations more than in others there may be difficulty in securing quiet breathing. Influences which tend to stop inspiration tend to encourage expiration. This explains how it is that shallow breathing with its tendency to the stopping of inspiration is not always the most favourable for the surgeon. The depressed inspiration which does not of itself embarrass him is liable to be accompanied by exaggerated expiration and this being effected by contraction of the recti provides at once a hindrance. Thus usually the best condition is quiet but natural breathing, respiration which is certainly not more vigorous than usual but which is also not very much less so.

When the blood is more venous than normal—i.e., has less oxygen—as is shown clinically by cyanosis, then respiratory movements increase in force and frequency. If cyanosis continues the respiratory movements become more marked than the inspiratory. This is in accordance with the already-mentioned effect of improperly oxygenated blood upon the respiratory centre. The amount of oxygen taken up by the blood from the lungs depends partly on the richness of the blood in red corpuscles. A person who is feeble and anæmic is poor in the oxygen-bearing red corpuscles. The same applies to fat people. With such people, therefore, any deprivation of air—i.e., of oxygen—gives rise to laboured respiration unusually easily. For these physiological reasons the clinical practice is sound which in such cases supplies air—i.e., oxygen—as freely as possible with the anæsthetic. Consequently, methods are to be avoided with this class of case which necessitate limitation of air-supply. Closed instruments are not to be used, at any rate for any long period, and if ether alone is employed it is to be given from a cone open at the top or from some other form of apparatus, such as a Rendle's mask, that admits air freely. Ether given in this way is often of the greatest service during a long administration to a feeble subject. Purely physiological teaching, then, points the proper conduct for securing abdominal quiet just as surely as clinical observation. We must avoid all cyanosis and all obstruction to breathing and we must have an anæsthesia deep enough to prevent the respiratory centre from being readily interfered with by afferent impulses.

The worst difficulty is opposed to the surgeon's manipulations in those cases where the recti contract firmly with expiration, the edges of the muscles being clearly defined and the muscles themselves rising up with every expiratory effort. In such cases the ordinary rhythm of protrusion of the abdomen with inspiration and depression with expiration is altered and the abdominal walls appear more prominent with expiration than with inspiration. A similar alteration of the rhythmic variation in the abdominal wall occurs when respiration is mainly or entirely thoracic, as it is in some cases of abdominal disease. In these instances, however, the passive condition of the abdomen offers little obstacle to the surgeon. In some cases where the abdomen is much distended—by a large tumour in its upper part for instance—although breathing is entirely carried on by the chest, yet there is no drawing in, or expulsion of, the abdominal wall. The diaphragm is apparently unable to descend at all; the abdominal wall is quiet and convenient for operation. Without any undue contraction of the recti the surgeon may yet be much inconvenienced if the mere extent of the respiratory movements of the abdominal wall is too wide. This occurs in some subjects if too light an anæsthesia is maintained. More commonly it is due to cyanosis or some obstruction in one or other part of the air-passages. The commonest causes of such obstruction are falling back of the congested tongue, swelling of the tongue and fauces, and excess of mucus.

The two conditions of the abdomen, in fact, which have been described—viz., excessive natural movements and contraction of the recti—are in the vast majority of instances due to preventable causes. These causes of the unwished-for condition are: (1) cyanosis, from whatever reason; (2) any obstruction of the air-way; (3) not enough anæsthetic; and (4) too much anæsthetic. Physiology explains plainly enough how the first two causes, cyanosis and obstructed air-passages, lead to alterations of respiratory movement which clinically are such a hindrance to the operating surgeon. Insufficient anæsthetic raises inconvenience by allowing too free movements, although there is not necessarily any alteration of the natural relationship between inspiration and expiration. Too scanty use of the anæsthetic may also be

accompanied by spasmodic closure of the jaws, and this by a straining, gasping kind of respiration. Excessive use of the anæsthetic tends to trouble by causing cyanosis. The cyanosis may be of very slight degree and yet its removal may at once change a gasping respiration greatly impeding the surgeon into a condition of smooth breathing which allows his work to go on with perfect ease. Particularly in pale, feeble subjects, such as are easily amenable to anæsthetics, I have seen inconvenience arise simply from the administrator permitting a slight amount of cyanosis. On withdrawing the anæsthetic, slightly opening the mouth, and drawing out the tongue, I at once obtained a perfectly satisfactory condition. The slight cyanosis that occurs in these debilitated subjects is easily overlooked by the inexperienced.

The operations particularly in which the utmost possible quiet and softness of the abdomen are required are mainly, perhaps, those which are performed upon its upper regions and those upon the bladder. Thus, in operations for gastric ulcer and in those upon the gall-bladder and bile-ducts, &c., the surgeon may not only be delayed but almost prevented from carrying out his aims if there is any contraction of the recti or if the abdomen heaves extensively with every act of respiration. As a rule, the best way to anæsthetise these cases is by inducing anæsthesia with gas and ether and then changing early to chloroform. This is sparingly given at first, but as soon as the anæsthetist has properly gauged his patient's susceptibility it is pushed to a deep degree. Such a procedure is probably the only one by which the condition of greatest possible facility for the surgeon is obtained. It undoubtedly involves risk if undertaken by anyone who is not thoroughly familiar with chloroform from frequent use. Fortunately, in feeble persons whose general condition would make deep chloroformisation specially dangerous, the desired condition of abdominal quiet is usually obtained without very free use of the anæsthetic. In these cases it is often best to use ether with the chloroform in the proportion of two parts of chloroform to three of ether. Moreover, with such persons gas is to be used very sparingly and any closed apparatus is generally best dispensed with or used only for a few minutes at the beginning. It is sometimes best even to induce anæsthesia by the chloroform and ether mixture, continuing with this or with chloroform alone, ether being added if stimulation is found necessary. The mixture is given from a drop bottle on a Skinner's mask at first and afterwards a cone or Rendle's mask may be substituted. For all abdominal cases this mixture of chloroform and ether in the proportions of two-fifths and three-fifths is in my experience an admirable anæsthetic and has over A.C.E. the advantage of greater simplicity.

There are certainly some cases in which the best condition of the abdomen, from the operator's point of view, cannot be obtained by the use of ether alone. The use of a closed ether apparatus throughout a long abdominal operation, such as we are considering, is rarely advisable, and if for some particular reason this agent is to be used from first to last, anæsthesia, when once properly induced, should be maintained by the use of some partially open instrument or mask which admits air freely. The easiest conditions for respiration do not appear to hold while a closed apparatus is being employed even when, with Clover's apparatus, the bag is kept off.[1] A more open method of administration with free air-supply offers often a better chance of obtaining that perfect flaccidity of the abdominal wall which is the aim of the anæsthetist and the comfort of the surgeon.

The avoidable causes of difficulty arising from the state of the abdominal wall we may now regard as dismissed. When the reasons for their presence are thoroughly appreciated they will not be allowed to come into play. The causes of abdominal difficulty that are not so easily removed depend upon conditions peculiar to the abdomen of the particular patient. These conditions are: (1) the shape of the trunk as it affects the upper portion of the recti muscles; (2) the thickness of the abdominal wall, particularly if due to muscular development; (3) the pathological condition of the recti muscles due to underlying disease; and (4) to these may perhaps be added abnormal sensibility to reflex effects.

1. *The shape of the trunk* gives rise to difficulty when the costal arch is unusually steep or narrow and the upper part of the rectus muscle is therefore very slanting. Perhaps the most aggravated difficulty that I have seen caused in this way was in a woman, the subject of severe angular curvature, who underwent the operation of pyloroplasty. In this woman the respiration was quiet and there was no contraction of the rectus muscles, yet their peculiar conformation, due to the long narrow costal arch, certainly provided considerable obstacle to convenient manipulation on the surgeon's part. In other instances very steep upper portions of the rectus muscles have inconvenienced the operator. In such cases the muscles seem as if they were too tightly stretched between their upper and lower attachments. Can the inconvenience arising from such structural peculiarity on the patient's part be remedied by the anæsthetist? Obviously, no use of chloroform or ether, to whatever extreme it is pushed, can avail, for in the case under discussion there is no question of active muscular contraction. When the muscle-fibres are entirely free from contraction the muscles are still inconveniently on the stretch. The proceeding most likely to be of use is to alter the position of the patient in such a way as to approximate the upper and lower attachments of the muscles of the abdominal wall. Thus if the knees are bent and the pelvis is raised, and the hollow of the back is allowed to drop, the particular difficulty with which we are concerned might be materially counteracted. Whether the inconvenience caused to the surgeon by this altered position would not be worse than that which it is designed to overcome is another question.

2. *Mass of muscle.*—When the abdominal walls are thick, whether from fat or from high muscular development, the surgeon may be much inconvenienced. If the trouble is due to massive muscles the slightest contraction on their part may make the inconvenience formidable. In such case the anæsthetist will do his utmost for the operator's convenience by maintaining a very deep anæsthesia entirely free from cyanosis and from any obstruction to breathing. Most often chloroform or a mixture will be the best agent to employ. Occasionally ether freely given with plenty of air seems to be most suitable. It is often necessary to hold the lower jaw forward from behind each angle and frequently to sponge out any mucus from the pharynx in order to secure perfectly unimpeded breathing. Sometimes this is not enough and the jaw has to be *slightly* opened by a gag and the tongue well drawn forward before the desired abdominal quiet is obtained.

3. *Pathological condition of the rectus muscle.*—In certain cases of chronic inflammatory disease in the upper part of the abdomen—as, for example, gastric ulcer with much adhesion—the upper part of the rectus muscle is, I believe, in a condition analogous with that which is sometimes found in the contracted muscles around a diseased joint. There appears to be actually a shortening of the muscle fibres and in this condition no use of the anæsthetic, however complete, can effect the relaxation of the muscle. If there is not actual shortening at any rate there is such spasm as cannot be relaxed. It is well known that in some functional spasms—in some cases of spasmodic wry-neck, for instance, and in some hysterical contractions of the fingers—the contraction of the muscles becomes perpetuated. The spasmodic condition in such cases is sometimes not relieved even by deep anæsthesia. In the cases now referred to the contraction of the abdominal muscles may be of somewhat similar nature. It may be that the protective reflex contraction set up by underlying disease has persisted so long as to become permanent. It must be borne in mind, too, that the ease with which reflex contraction of muscles is dispelled by anæsthesia varies greatly. In certain subjects only the deepest available anæsthesia is of any use. Every anæsthetist has met with instances in which although he used his materials with unusual freedom reflex effects were produced by the surgeon's manipulations. Such instances are common when some part of the genito-urinary organs is the seat of operation. Another conceivable explanation—in cases, at any rate, where there is adhesion to the anterior abdominal wall—is that inflammatory products have actually become organised and shrunk within the muscle, thus producing permanent contraction. Such an explanation seems to be very feasible in such cases as the following. In this case, that of a woman who was suffering from severe chronic gastric symptoms, excellent opportunities were afforded of accurately noticing the condition of the abdominal wall under anæsthetics, for these were employed on two separate occasions, the first time simply for examination and the second time for an exploratory laparotomy. Before administration of the anæsthetic the abdominal wall,

[1] Dr. F. W. Hewitt's wide-bore inhaler has probably from this point of view a great advantage over the usual form of Clover's inhaler.

although that of a thin pale woman of a type extremely convenient for abdominal palpation, was so firm that the examining hand gained little information as to what might be beneath the muscle. Gas and ether were well taken but when ether anæsthesia was fully established there was still firm resistance in the upper part of the left rectus muscle. Operation was decided upon and was performed a few days later. On this occasion, after gas and ether, the patient was brought deeply under the influence of chloroform. The contracted state of the left rectus muscle was uninfluenced. The operation exposed a chronic ulcer on the anterior wall of the stomach with dense adhesion to the under surface of the abdominal wall. It is quite possible that a similar condition of the abdominal wall might occur in a case of chronic appendicitis. In muscular subjects much inconvenience would thus probably be caused, although as a general rule operations on the lower parts of the abdomen, particularly towards the side, are much less interfered with by muscular conditions than those above the umbilicus.

In the case just related there was organic alteration of the muscle, or else a permanent institution of that protective contraction which is so obvious over an acute peritoneal lesion, and which is usually so entirely relieved when the patient is anæsthetised. The contraction is, of course, in the acute cases a reflex phenomenon and is therefore generally abolished, like other reflexes, by deep anæsthesia. Similar instances have lately been described by Sir William Bennett[2] under the name "protective phantoms." When the contraction is met, as in the above instance, naturally the anæsthetist, and still more the surgeon, supposes that if not due to cyanosis or air obstruction it is merely due to too light an anæsthesia. I have satisfied myself that this is not so by pushing chloroform in such a case to the very limit of safety—to a point at which the pupil was dilated to more than three-quarter size and the breathing was beginning to fail—and then inquiring again of the surgeon as to the contracted condition of the muscle. It was as unsatisfactory as before. This state is happily not often seen. If it very seriously inconvenienced the surgeon the only remedy I imagine would be for him to divide the muscle across.

A guide as to the causation and to the irremoveability or not of such contraction may come from noticing the condition of both sides of the abdomen. One side may be quite soft and convenient; the other, which shelters the disease, may be inconveniently firm, as in the gastric case I have related. Of course, the better the muscular development of the patient's abdomen the more inconvenience will these firm recti cause. A case in which they afforded the greatest trouble to the surgeon was that of a young soldier who, since an attack of enteric fever three years previously, had suffered from severe pain in the upper part of the abdomen. In him the contraction of the recti, which were very well developed, was not to be overcome by anæsthetics. Some firm adhesions about the transverse colon and stomach were divided and removed at the operation.

Taking, then, a general survey of the conditions of the abdominal wall which interfere with an operator's convenience, it may be seen that there are some unusual cases in which the anæsthetist cannot remove the difficulty, but that in the great majority of instances he can obtain a perfectly satisfactory condition by maintaining unimpeded breathing, complete absence of cyanosis, and sufficiently deep anæsthesia. These desiderata he obtains by properly selecting his anæsthetic, by giving it freely with a liberal air-supply, by keeping the air-passages free, and by holding the lower jaw well forward. When this is not enough the mouth must be slightly opened and the tongue drawn out. One other point may be mentioned—viz., the element of time. It often happens that only towards the close of an operation is the patient's abdomen in a perfectly satisfactory condition from the surgeon's point of view. It is a good plan, therefore, in abdominal cases to let the anæsthetist get to work at the earliest possible moment—as soon, for instance, as the surgeon begins to get his instruments ready. By such a step a comfortable state may be insured throughout instead of at the close of the operation only the surgeon and anæsthetist witnessing the condition which they had all along been desiring.

Sloane-terrace Mansions, S.W.

[2] THE LANCET, Jan. 4th, 1902, p. 2.

URETHRAL HÆMORRHAGE IN GONORRHŒA.

BY J. F. DOBSON, M.S. LOND., F.R.C.S. ENG.,
LATE RESIDENT SURGICAL OFFICER TO THE GENERAL INFIRMARY AT LEEDS.

THE following cases which have come under my care are of considerable interest and are good illustrations of a rare complication of gonorrhœa.

CASE 1.—A man, aged 26 years, attended at the Leeds General Infirmary on Sept. 2nd, 1899. He gave the following history. A month previously he had contracted gonorrhœa; the attack was of moderate severity and a profuse discharge persisted for a fortnight. It then diminished but never completely disappeared. He used an injection of potassium permanganate and also took capsules of santal oil by the mouth. There were no complications and beyond a little pain on micturition and a slight urethral discharge he was perfectly well on the morning of Sept. 2nd. On the evening of that day, after coitus, he immediately had a profuse hæmorrhage from the urethra. I saw him about half an hour afterwards. He had evidently lost a quantity of blood, his shirt and trousers being soaked; bright blood was issuing rapidly from the urethra. The hæmorrhage was arrested with some difficulty by the external application of ice and by injecting into the urethra a weak solution of tincture of hammamelis. He had a recurrence of the bleeding two days afterwards but it was not so profuse and was easily arrested. An injection of a 2 per cent. solution of protargol was ordered but this failed to cure the discharge, and after trying various remedies unsuccessfully I lost sight of him. The treatment adopted in this case was not such as I should now recommend, but at that time I was ignorant of the use of the urethroscope.

CASE 2.—A miner, aged 17 years, attended at the Leeds General Infirmary on Feb. 26th, 1901. He was bleeding profusely from the urethra, so much so that he was brought in an ambulance. He had contracted gonorrhœa six weeks before and had had a urethral discharge ever since. The attack was of but moderate severity and was unattended by complications. He said that the bleeding had commenced when he was working in the pit. He had lost a quantity of blood and a stream of bright blood was proceeding from the meatus. The urethroscope tube was passed and the urethra was inspected. At first nothing could be seen owing to the bleeding, but after mopping the blood away with pieces of wool in holders and inflating the urethra with air it was seen that the hæmorrhage was proceeding from a congested granular-looking patch in the floor of the bulbous urethra. Bright blood was oozing rapidly from this patch. A small fragment of wool dipped in solution of perchloride of iron was applied to the diseased area under the guidance of the electric light. No other patches were discovered. The bleeding ceased at once on the application of the iron and the patient was sent home. There was no return of the hæmorrhage but there was some increase in the amount of discharge which was treated by the use of a 1½ per cent. protargol injection and at intervals by the application of a 10 per cent. solution of protargol to the diseased portion of the urethra through the urethroscope. The discharge rapidly diminished under this treatment and the patient was discharged cured at the end of three weeks. The result of the treatment adopted in this case was most striking and effective.

The next case is of a somewhat different nature to the preceding cases.

CASE 3.—A man, aged 24 years, seen on May 30th, 1901, had had acute gonorrhœa three months previously. The attack had been of considerable severity but there had been no complications. He had a persistent discharge and on several occasions there had been some bleeding from the urethra. This had never been very profuse but was liable to come on after any particular exertion. He had taken various drugs by the mouth and had used a large variety of injections; a metal sound had been passed on two occasions. I saw him a few days after a smart attack of hæmorrhage. A muco-purulent discharge could be expressed from the urethra and this contained gonococci; there was no pain or difficulty in micturition but the meatus was extremely narrow. The meatus was incised, the urethroscope tube was

passed, and the urethra was inflated with air. A congested papillary patch was found in the penile urethra, which bled readily on touching it with the probe. The remainder of the anterior urethra was apparently healthy and there was no evidence of a posterior urethritis. The diseased patch was swabbed with a 20 per cent. solution of protargol through the urethroscope on three occasions at intervals of four or five days, the patient also using a 1½ per cent. injection of protargol night and morning. At the end of three weeks' treatment the discharge had ceased and there was no further hæmorrhage.

I have seen also two other cases of urethral hæmorrhage following gonorrhœa; in both cases the bleeding was profuse and in one it was complicated by retention of urine. These cases were not under my own immediate treatment.

I can find comparatively few references to this complication in medical literature. Erichsen[1] says: "Hæmorrhage from the urethra may occur as the result of chordee and consequent rupture of some blood-vessels of the corpus spongiosum, as the consequence of attempts at passing the catheter, or as a simple oozing from the inflamed mucous membrane." White and Martin[2] mention the occurrence of hæmorrhage at the end of micturition in acute posterior urethritis. "The hæmorrhage may be very free and will pass back into the bladder and the patient will pass it mixed with the urine at the termination of the act." Again,[3] "'Russian clap' is the name applied to gonorrhœa of a hyper-acute type with lymphangitis, obstinate chordee, and free bloody discharge. Bleeding is due to the rupture of the intensely congested vessels of the urethral mucous membrane and both the pus and the semen are tinged with blood." Güterbock[4] describes the occurrence of this complication under the name of black or Russian gonorrhœa. Taylor[5] recommends the localisation of the source of the hæmorrhage by means of the urethroscope. Lydston[6] mentions the bleeding occurring in association with severe chordee. Grünfeld[7] mentions the case of a patient suffering from gleet and passing blood from the urethra who was examined with the urethroscope and a polypus being discovered it was removed by the snare.

It is evident, therefore, that bleeding may occur either in the acute or in the chronic stage of gonorrhœa; in the acute stage with severe chordee or with a posterior urethritis. This is rarely profuse, generally a mere tinging of the discharge, and probably will not call for any special treatment; it would be most unwise to use the urethroscope. In the chronic stage the bleeding may be profuse or slight. Profuse hæmorrhage, as in the first two of my cases, may occur after any extra exertion or after coitus (as in Case 1) in patients who have passed through the acute stage but who still have a discharge from the urethra. The bleeding in the majority of these cases arises from a granular or papillary patch in the anterior urethra; it may be very profuse and may demand immediate treatment. Slight and repeated hæmorrhages may occur in patients suffering from a chronic gleet and may arise from urethral polypi, papillomata, ulcer, or granular patch. Possibly these cases are more common than is generally supposed; a patient may make the statement that he is passing blood in his urine and may conceal the fact that he has a chronic urethral discharge. When a specimen of the urine is examined it will be found to contain blood and the patient may be subjected to much unnecessary and fruitless examination of the bladder and kidneys. If care be taken it is quite easy to ascertain that the hæmorrhage comes from the urethra.

With regard to the treatment of these cases, in the acute stage the hæmorrhage in itself does not call for any special treatment and the case may be managed on ordinary lines. In the chronic stages, when the hæmorrhage is profuse Erichsen[8] recommends the application of ice or the introduction of a large gum-elastic catheter and pressure by means of a bandage to the penis and perineum, probably an exceedingly uncomfortable method of treatment. Rest in bed with elevation of the penis, ice to the perineum, and the use of a weak astringent injection such as sulpho-carbolate of zinc may be successful. Undoubtedly the best results are obtained by the use of the urethroscope; the source of the hæmorrhage may then be detected and the bleeding may be controlled by direct applications under the guidance of the eye to the diseased area. This was the treatment adopted in two of my cases and it was eminently satisfactory. The tube is introduced into the urethra and the blood is removed with fragments of wool in holders; the urethra is then inflated with air and this in itself tends to check the hæmorrhage, the light is applied, and the urethra is inspected. Blood may then be seen issuing from the diseased area. The tube is passed down to this area, the urethra is deflated, and a fragment of wool dipped in a solution of perchloride of iron is applied to the whole of the bleeding surface. Other solutions may be used in preference to the iron, such as tincture of hammamelis, adrenalin, &c.

The effect of this treatment is to increase the amount and purulency of the discharge. This may be controlled by the use of an injection of protargol and the occasional application of a 10 per cent. or a 20 per cent. solution of protargol to the diseased area through the urethroscope tube. If the gleet is due solely to this patch of disease, and not to a posterior urethritis, chronic vesiculitis, or prostatitis, it will be readily cured by this method. If a polypus is, or if papillomata are, the cause of the discharge and hæmorrhage such conditions can be satisfactorily diagnosed and treated only by means of the urethroscope.

I wish to thank Mr. W. H. Brown and Mr. A. W. Mayo Robson, in whose admission wards these cases were seen, for permission to publish them.

Leeds.

[1] The Science and Art of Surgery, vol. ii., p. 1167.
[2] Genito-urinary Surgery, p. 101.
[3] Ibid., p. 98.
[4] Die Krankheiten der Harnrohre und der Prostata.
[5] Genito-urinary and Venereal Disease, p. 413.
[6] Ibid., p. 129.
[7] Der Harnröhrenspiegel, Wiener Klinik, 1877, pp. 94 and 95
[8] Ibid.

REMARKS ON CERTAIN METHODS OF PHYSICAL DIAGNOSIS IN DISEASES OF THE CHEST.

WITH ILLUSTRATIVE CASES.

BY A. G. AULD, M.D. GLASG., M.R.C.P. LOND.,
LATE ASSISTANT PHYSICIAN TO THE GLASGOW ROYAL INFIRMARY; HONORARY PHYSICIAN TO THE WESTMINSTER GENERAL DISPENSARY.

IN considering the various diseases to which the lungs are subject, a general law as to their distribution is found to operate. It is found that lesions of a tuberculous nature usually attack the apices, whereas most other diseases commonly attack the bases. In reference to the latter it is only necessary to mention such common affections as bronchitis, the various forms of pneumonia, and pleurisy. It is especially necessary to bear this in mind in the case of bronchial affections and the lesions of the pulmonary parenchyma which may complicate them. Just as in tuberculosis the examiner's attention is instinctively, so to speak, directed to the apices, so in non-tuberculous affections it should contrariwise be directed to the bases. No doubt the entire chest ought to be thoroughly examined in every case of suspected disease within the thorax, but it is just in the simpler and commoner conditions—in which the examination is apt to be slipshod—that the bases should be examined with special care. Take, for instance, the case of a troublesome cough remaining after influenza or acute bronchitis. Examination of the anterior part of the chest may be negative and possibly the examiner puts down the cough to some obscure irritation of the bronchi not amenable to auscultation. Now it is very likely that in one or other base, and possibly very low down, an area, which may be quite small, is the seat of numerous bronchitic râles. It is less frequent than is usually supposed that a cough exists the cause of which eludes physical examination.

If, then, the importance of examining the pulmonary bases be so manifest it is necessary that full use be made of all the means which assist in rendering the examination complete. Now, in addition to the usual methods of percussion, auscultation, &c., we have at our disposal others which are both simple and reliable. Two at least of these are applicable in all cases of chest disease, yielding as they always do positive data which materially assist both diagnosis and prognosis. The methods to which I refer are, however, more particularly concerned with the pulmonary bases and so their practical application may shortly be considered in that connexion.

TECHNIQUE OF THE PHYSICAL EXAMINATION.

It is best first of all to determine the condition of the organs immediately underlying the diaphragm, ascertaining

the limits of the hepatic dulness and the condition of the stomach and colon as to distension. Any general cause of pressure upwards, as by fluid or tumour, is likewise to be investigated. While this part of the examination is being carried out the patient should be in the recumbent position.

Next as to the examination of the chest itself. It may be said generally that whenever possible the patient should be in the erect position. Lying or sitting up in bed relaxes the abdominal viscera and the muscles of the trunk. This interferes with the free play of the diaphragm and renders the results of percussion less accurate. The percussion note is also impaired in respect of its timbre and mass of tone by the patient's bedding (if confined to bed).

Topography.—It is always well to bear in mind the lines of separation between the lobes of the lungs, and their corresponding position on the surface of the thorax. More particularly it is to be recollected that on the right side the line of division between the upper and middle lobes runs inwards over the fourth rib, or *above* the usual position of the nipple, and that the middle lobe includes all the most anterior portion of lung below this. Also that on the left side the line of demarcation between the lobes runs from some distance outside the nipple sharply inwards and downwards, so as to include in the lower lobe practically all the diaphragmatic surface of that lung.

The bases of the lungs may topographically be divided into three parts or regions. These are the anterior base, the posterior base, and that portion which lies midway between these regions, spoken of as "the lower part of the axilla," the "side," and the "infra-axillary region." As this last-named is a very important area in connexion with physical diagnosis it deserves a shorter and more appropriate designation. It may therefore be termed for present purposes the "axillary base." It may be regarded as bounded in front by a vertical line from the anterior fold of the axilla passing about an inch to one and a half inches outside the nipple line. This may be termed the "anterior axillary line." Its posterior boundary is, perhaps, best ascertained by getting the patient to place his hand on his head. This manœuvre rotates the inferior angle of the scapula into what may be termed the "posterior axillary line." When the patient lies on his back on a hard couch this line, roughly speaking, marks off the visible area of the chest. For practical purposes, therefore, the axillary base may be regarded as the region of the chest below the horizontal nipple line which is bounded by these vertical lines while it is bisected by the mid-axillary line.[1]

Technique.—So much for topography, next as to technique. The inspection of the chest as to formation and the movements of respiration being conducted in the usual way, the patient is placed in position for the observation of Litten's diaphragm phenomenon. He lies on his back on a hard couch, placed exactly opposite a window towards which his feet point. No other light must be allowed to come athwart his body, any other window in the apartment being screened.[2] Standing at the patient's side the examiner will see, when the patient draws a deep breath, a narrow, dark band moving downwards with inspiration and upwards with expiration. This band is caused by a linear depression in the chest wall which corresponds to the line of division between the edge of the lung and the diaphragm. As the diaphragm unrolls off the chest wall, it is closely followed by the thin edge of the lung. At the moving point of contact there is a slight increase of negative pressure and so the shadow is produced. In the course of many examinations one will seldom fail to observe this phenomenon in a satisfactory manner. Fatness is the chief obstacle in normal chests. The excursion of the shadow averages from two to four inches according to the respiratory capacity of the individual, and its lower limit is more sharply defined than is its upper. Frequently in thin muscular persons it may be seen over nearly the entire circle of the chest as the patient lies; in other cases it may only be seen at certain points—at the nipple line or the posterior axillary line. Its limits should always be marked off with a pencil. If it be deficient or absent at either base, one suspects a condition which prevents the descent of the lung. Such condition may be pulmonary, pleural, pericardial, or abdominal.

Having noted the range of the shadow the patient is again placed in the erect position and the chest is palpated. The only remark which may be made in this connexion is that it is well to test the vocal fremitus with the *edge* of the hand. The outer edge of the hand is applied transversely and is moved down successively over each rib and intercostal space. The fremitus is thus noted over smaller areas than could be possible by the application of the entire hand. This procedure will sometimes be found to supply information of very great value.

Percussion next claims attention and it is here intended to consider a special application of it. We have seen that the downward expansion of the lungs may usually be determined by the diaphragm shadow. The same information is afforded by percussion. If the inferior border of the pulmonary resonance be found on quiet expiration and marked off with a pencil from the liver dulness, a deep inspiration will cause an extension of resonance downwards to percussion, according to the extensibility of the lung border. This distance should correspond pretty accurately with that yielded by the shadow. There is thus a double test available for the pulmonary extension downwards. And it is well that it is so, for in many cases of disease of the base in which the pulmonary excursion is too small to be perceived by the shadow it may be ascertained by percussion. I think that this method of determining the limits of the pulmonary expansion, whether at the bases or over the cardiac dulness, may be termed "limitary percussion."

The greatest downward extension of the lung takes place at the axillary base and it is here that limitary percussion should usually be made. On the right side the liver dulness is our guide. The patient, standing upright, should be directed to place his right hand on his head. He should not, however, lean to the opposite side, as this position tends to render the pulmonary resonance at the edge of the lung more diffuse. The line of demarcation between the resonant and dull areas in the resting state of the lung being marked with a pencil, the extension of the resonance downwards with a deep inspiration is determined, and in like manner the recession of resonance upwards above the line is ascertained during a deep expiration. On the left side the conditions are different. Here the stomach tympany takes the place of the liver dulness. But in the *spleen* we have a body which serves as a satisfactory indicator. It is necessary first of all to percuss out the spleen. If the splenic dulness is absent it is likely that either the stomach or the colon or both of these viscera are distended. But there is another warning to be given. In one or two cases I have found that whereas in the recumbent position (i.e., the patient lying on his right side) the splenic dulness was replaced by a stomach note, it nevertheless became perfectly apparent on the patient's assuming the upright position. This somewhat rare phenomenon is one which does not appear to be described in any of our text-books. In the resting state, the edge of the lung usually overlaps the upper limits of the spleen. The examination is conducted as on the right side, the patient placing his left hand on his head. During a deep inspiration the lung border descends over the organ and provided this body be of the usual size, the results of limitary percussion are quite satisfactory. It is evident that this method of percussion is not applicable unless there is resonant lung over some part of the extreme base.

Before leaving the subject of percussion, reference must be made to the direct or immediate variety—a factor in diagnosis which has undeservedly fallen into disuse. It may be practised with the tips of the first three fingers gathered into a point with the thumb in apposition to the first finger or by using the middle finger alone. The latter method is generally preferable. The stroke should be fairly sharp and should be made over a rib. I am inclined to think that this mode of percussing sometimes gives more accurate information than mediate percussion. It requires some practice to be properly appreciated but it will yield in almost all cases quite as reliable results as the mediate variety, while, as stated, in not a few cases it is the more sensitive test, especially as regards the sense of resistance.

The remaining method of diagnosis which shall here be considered is applicable only to a limited number of cases. It demands, even more than those already described, the intelligent coöperation of the patient and may be defined as that of "forced breathing." In this the patient is requested to take a number of deep breaths in succession. Sometimes a dozen may suffice, but in other cases 30 or 40 may be necessary, in the course of which a short interval of rest may be permitted. When a lung, or at least its basal portion, has undergone a certain degree of compression or

[1] Clinically, the base of the lung refers to all the pulmonary region below the horizontal plane at the apex of the diaphragm.

[2] A good artificial light will suffice in the absence of dayligh

collapse, forcible breathing will sometimes alter the condition of affairs in a very remarkable manner. The collapse affecting the base which is induced by bronchitis in young persons may temporarily be made to disappear, dulness and feeble breathing being replaced by resonance and free breathing. It is necessary, however, that the acute symptoms shall have passed off, that the bronchial tubes are permeable to air, and that the collapse is not too extensive or deep. The same transformation may be produced to a greater or less extent in a lung which has undergone compression from pleuritic effusion. It is obvious that this test is only applicable to patients of a certain age, while the results obtained are only temporary. Nevertheless, the information yielded is extremely valuable.

Such, then, are the particular diagnostic criteria to which I have wished to refer in connexion with the investigation of morbid conditions of the lungs and more particularly of their bases. It now remains to illustrate their application in a few cases of disease affecting these regions. Three cases have been selected in which the morbid signs were almost exclusively confined to one or other base, thus rendering unnecessary any specific allusion to the condition of the organs generally.

ILLUSTRATIVE CASES.

CASE 1.—The patient, a man, aged 47 years, complained of cough lasting for three weeks with considerable expectoration. On the left side the diaphragm excursion was two inches, percussion resonance was good, and limitary percussion gave an extension of the pulmonary border downwards two and a half inches at the axillary base. Auscultation revealed a few sonorous and mucous rhonchi accompanying the breath sounds which were otherwise normal. On the right side the diaphragm shadow was absent, the percussion note was impaired from the seventh intercostal space behind to the extreme base, and there was no extension to limitary percussion. Vocal fremitus was more marked over this area and vocal resonance was slightly increased also. The breath sounds were faintly heard and were of bronchial character, the latter part of inspiration being obscured by numerous small mucous râles of a rather crackling quality. A few such râles were also present on expiration. On deep breathing the râles were much increased at the termination of inspiration. They were not affected by cough. After a week there was still no movement of the shadow but at the axillary base percussion gave an extension downwards of a finger-breadth on deep inspiration. Otherwise the signs over the base had undergone but little alteration. There were still some impairment of resonance and numerous mucous râles. After the lapse of another week the shadow was seen to be moving for about an inch on the right side and percussion at the axillary base gave a downward extension of one and a half inches. The dulness had practically disappeared to mediate percussion, but direct percussion yielded a distinct sense of resistance as compared with the left base. The vocal fremitus and resonance were but slightly different from those on the left side; the breathing was broncho-vesicular and the râles had become much softer. Five weeks elapsed ere there was another opportunity of seeing this patient. On listening over the right base a number of subcrepitant râles were heard at the end of deep inspiration. After eight or nine deep breaths these all disappeared with the exception of a few in a narrow zone at the extreme base. The shadow excursion was over two inches (the same as on the left side) and the limitary percussion coincided. Vesicular breathing was restored and the lung was practically normal.

It is sometimes well to listen over the bases before carrying out inspection and percussion, because in the course of the latter the deep breathing which is necessitated may dispel any atelectatic crepitation. If we wish to know whether atelectatic crepitation exists this precaution is necessary.

There can be little doubt that in this case there was some broncho-pneumonia of the right base—a condition not so rare in adults as some imagine. Yet many authors have noted that in adults bronchitis of the base is occasionally characterised by an impaired percussion note and more or less bronchial breathing. In these there is generally some collapse as well. When the disease is at its height this collapse cannot be overcome by forced breathing. It is only when the lung is on the road to recovery and when the obstructed bronchi are more or less relieved that the air can be forced through so as temporarily to inflate the lung. As regards the physical examination it is interesting to note that the earliest reliable sign of improvement consisted in the slight extension downwards revealed by percussion. This occurrence warranted a favourable prognosis. It indicated that the lung had begun to recover; it also indicated that there were no pleuritic adhesions of much extent at the base.

It may be pointed out here that a small circumscribed consolidation at the base does not abolish the shadow. The non-appearance of the shadow (provided it be present on the opposite side) points to an extensive distribution of the morbid process.

CASE 2.—The patient, a female, aged 20 years, had suffered from cough for two months which had become worse latterly. There was much mucous expectoration. On the right side the diaphragm shadow was well seen for about one and a half inches. Vocal fremitus was unsatisfactory (the patient had a very weak voice). Percussion was normal. Limitary percussion gave a pulmonary expansion of two inches at the axillary base. Auscultation revealed some piping and sonorous rhonchi. On the left side the diaphragm shadow was absent and vocal fremitus was doubtfully felt. The percussion note was dull from near the angle of the scapula downwards over the lower lobe and extending forwards as far as the mid-axillary line. Limitary percussion impracticable. On auscultating in the upper part of the lower lobe the breathing was harsh but vesicular and there were a few mucous râles present. In the lower part of this lobe the breath sounds were very feeble and were nearly obscured by mucous râles. The râles accurately followed the line of division between the upper and lower lobes round to the nipple line and then to the bottom of the lung. In the lower part of the posterior base the râles were distinctly ringing in character. These signs remained practically unaltered for three weeks and naturally they gave rise to a suspicion of tuberculosis. There was very abundant expectoration but it was purely mucous. Examination during the fourth week revealed, however, some indications of improvement. There were a slight extension to percussion and a suspicion of a shadow movement. The dulness was also considerably diminished but the râles were practically unaltered nor were they much influenced by cough. The patient continued under treatment but it was six weeks before I saw her again. She was then greatly better. After a few deep breaths the shadow moved quite two inches on the left side, equal, indeed, to that on the right, and the dulness had disappeared. There was still a mucous râle audible at the end of a deep inspiration and a few sonorous rhonchi were scattered over the chest.

The next, and the last, case illustrates more particularly the effects of forced breathing on a lung which had undergone partial collapse due to a long-standing lesion of the base. The organ had been gradually recovering but the elasticity of the tissues had evidently been much impaired both by the disease and by prolonged disuse.

CASE 3.—The patient was a girl, aged 12 years. According to the mother's statement she had been suffering from the effects of "inflammation of the lungs" since she was eight years of age. She was very well nourished and well grown, had no appearance of tuberculosis, and the sputum, which was expectorated in fair quantity, was free from the tubercle bacillus. The entire right lung and the anterior part of the left lung were perfectly sound. Inspection showed the left base to be somewhat retracted and to expand but little on deep inspiration. The shadow was also absent over this side, but neither could it be seen on the right side. No vocal fremitus could be obtained over the left base but it was very faint in every region. The percussion note was quite dull below the eighth rib behind, the dulness shading off somewhat towards the mid-axillary line, but nevertheless it was apparent to a certain degree also over the axillary base. Auscultation revealed numerous râles of a crackling character over the dull area which were especially marked on deep breathing. Towards the extreme base the auscultatory signs were almost negative. The vocal resonance, so far as one could judge, was diminished. This girl continued for months without any alteration in the physical signs and enjoyed good health. Her only symptoms were cough with considerable expectoration. One day last summer she presented herself, much changed for the better. The retraction of the left base was barely visible and there was some expansion outwards on deep breathing. No shadow movement was visible. The dulness had distinctly diminished except at the very bottom of the lung; the breathing, though feeble, was evidently becoming

re-established and the râles were chiefly confined to the end of inspiration. The patient was now got to practise forced breathing. She continued to excite as deep respirations as she could, and on listening over the affected base during this process one heard the air during the first part of inspiration as if struggling with some obstacle, passing slowly and accompanied by a few râles. It then broke into a "puff," terminating with a number of crepitations. The latter part of expiration was also performed in a halting manner but without the râles. It was bronchial in character. After the patient had continued the deep breathing for several minutes it was found that the râles had disappeared, the breath sounds had become sufficiently loud and free, and the percussion tone was perfectly resonant. Moreover, the edge of the lung descended two inches to percussion—a distance equal to that obtained on the right side. Owing to the stoutness of the patient no shadow was visible on either side.

I have seen other cases in young persons wherein collapse, if not too extensive or deep-seated, could be overcome by this method. Forced breathing will also inflate the compressed lung to a certain extent during the existence of a pleuritic effusion or after its absorption. In the case of tardy recovery of the pulmonary elasticity after broncho-pneumonia or pleurisy it is probable that forced breathing should form part of the treatment and be performed as a daily exercise.

Not having seen the last patient from the beginning of her illness, I am unable to say what lesions she may not have had. But when she first presented herself the condition of the extreme posterior base of the left lung was somewhat difficult to diagnose—as the signs of collapse when uniformly affecting this zone are very similar to those of a small effusion or of thickened pleural membranes. As it turned out she was suffering from chronic or rather subacute broncho-pneumonia with pretty extensive collapse. If pleurisy had existed for so long a time it is very unlikely that it would have left no adhesions or thickening at the extreme base. The absence of such is proved by the extension downwards which was demonstrated by limitary percussion.

Perhaps the notes of these cases, out of a considerable number which I have collected, may suffice to indicate the importance of utilising the various procedures to which reference has been made.

Henrietta-street, W.

NOTE ON A

CASE OF ARTHRITIS ACCOMPANYING OPHTHALMIA NEONATORUM.[1]

BY C. O. HAWTHORNE, M.D. GLASG., M.R.C.P. LOND.,

PHYSICIAN TO THE CENTRAL LONDON OPHTHALMIC HOSPITAL; ASSISTANT PHYSICIAN TO THE NORTH-WEST LONDON HOSPITAL AND TO THE ROYAL HOSPITAL FOR CHILDREN AND WOMEN.

FOR a recognition of the fact that the purulent ophthalmia of newly-born infants may be associated with joint complications analogous to those which not infrequently attend urethritis we are indebted to Mr. R. Clement Lucas.[2] His first observation, made so far back as 1885, was perhaps not unnaturally subjected to the ordeal of a somewhat incredulous criticism. From this, however, it emerged successfully and the suggestions that his case might have been one of epiphysitis or of syphilitic synovitis were successfully met by clinical arguments that can hardly be gainsaid. The lapse of time has provided further evidence. This is by no means abundant so far as volume is concerned, but it is supplied by a number of independent observers and contains elements which raise it to the level of established proof. To judge from systematic works dealing with the subject of ophthalmia neonatorum it would appear that Mr. Lucas's original observation hardly attracted the attention which it deserved, though for this some excuse may perhaps be found in the fact that, with one exception, recorded by Mr. R. G. Fendick,[3] also in 1885, no parallel case was recorded in Great Britain during a period of 13 years. And when Mr. Lucas in 1899 introduced the subject to the Royal Medical and Chirurgical Society a search through European medical literature had resulted in the discovery of only 23 cases. Writers on gonorrhœal rheumatism subsequently to Mr. Lucas's case, however, began to recognise the occasional occurrence of joint complications in ophthalmia neonatorum and the association was mentioned by Dr. Archibald E. Garrod[4] in 1890 and by Dr. J. Mitchell Bruce[5] in 1894. More recently Mr. Sydney Stephenson[6] has given some interesting particulars of the character of the joint affections, and Dr. L. Vernon-Jones[7] has also drawn attention to them. Yet, from what has been stated above the cases are anything but numerous, and so it seems desirable that examples of the condition should be put upon record, more particularly as in some instances the subacute character of the inflammation and its temporary duration may cause it to be overlooked.

The example now to be reported can only claim the interest that it confirms the results of the earlier observations, more especially as regards the possibly quiet nature of the arthritis and the prompt and thorough restoration of the efficiency of the affected joints. The diagnosis in this individual case was not confirmed by bacteriological examination, though this has been accomplished in other instances in reference both to the conjunctival discharge and the synovial effusion. But as we have medical warrant that the father of the patient had gonorrhœa two months before the child was born, that the mother was subsequently affected, and that the child began to suffer from purulent ophthalmia when two days old the diagnosis is not open to doubt.

The earlier particulars of the case, for which I am indebted to Dr. John Clarke, are as follows. The affection of the eyes commenced two days after birth and an abundant purulent discharge continued for fully three weeks. When the child was a fortnight old the right shoulder-joint became considerably, and the right wrist slightly, swollen without apparently causing the child much discomfort and the swelling subsided in the course of a fortnight without any very active treatment. When the child came under my observation he was six weeks old. There was still a slight amount of muco-purulent discharge from the conjunctivæ and the right cornea presented a small abrasion from which a diffuse haze spread through the corneal substance. It may perhaps be conjectured that here is to be found the explanation of a further outbreak of joint inflammation. For while the joints which were first attacked—that is, the right shoulder and wrist—had completely regained their normal characters the left elbow-joint was much enlarged and the swelling extended down the radial side of the forearm for a considerable distance, giving here a sensation of deep fluctuation, as though the sheaths of the muscles were involved. The skin was not reddened and though the child objected to manipulation of the joint he appeared otherwise to be free from pain and his general nutrition was entirely satisfactory. It was decided to fix the limb and to continue the local treatment of the ophthalmia and under these measures the patient made a rapid recovery, so that in from two to three weeks the elbow-joint and forearm had regained in every respect their normal characters.

Attention may first be drawn to the subacute character of the successive attacks of arthritis. Almost from the outset of his observations Mr. Clement Lucas recognised that two varieties of arthritis associated with ophthalmia neonatorum occurred—viz., (1) a very acute form with features suggesting a tendency to suppuration and (2) a milder form accompanied by a great deal of effusion and pain on movement but with little or no surface redness. The present case adapts itself exactly to this latter form. A second feature worthy of note is the extension of the swelling beyond the limits of the joint cavity. This is, of course, a well-recognised event in many cases of arthritis of urethral origin and Mr. Sydney Stephenson has drawn attention to "effusion into the sheaths of the tendons" in the neighbourhood of the affected joints in cases where the primary gonococcal inflammation involves the conjunctiva. The joints most commonly affected would appear to be the knees and the wrists, but in the present case the knees escaped altogether and the stress of the disease fell on the right shoulder and left elbow. It may be added that no history of injury could be obtained and there was no evidence of syphilis in either the child or the parents. Lastly, the promptness and completeness of the

---

[1] A paper read before the Society for the Study of Disease in Children on May 16th, 1902.

[2] Brit. Med. Jour., 1885, vol. i., p. 429; vol. ii., pp. 57, 699, 773; Transactions of the Royal Medical and Chirurgical Society, vol. lxxxii., p. 137.

[3] Brit. Med. Jour., 1885, vol. ii., p. 830.

[4] Treatise on Rheumatism, p. 185 (Charles Griffin and Co.).

[5] Quain's Dictionary of Medicine, second edition, vol. ii., p. 681.

[6] Contagious Ophthalmia, 1890 (Baillière, Tindall, and Cox).

[7] Gonorrhœal Arthritis, 1891 (H. K. Lewis).

restoration of the joints to normal may be noted. This is in harmony with other records and supports and justifies the presentation of a favourable prognosis in these cases. It is a feature of the condition in pleasing contrast to the obstinate and often prolonged evil effects which so frequently attend the usual form of gonorrhœal arthritis. The explanation is doubtless to be found in the ease and readiness with which a purulent ophthalmia can be successfully treated as compared with the difficulty of bringing to a close the opportunities for absorption of a purulent discharge offered by the urethra and its related glandular recesses. The difference between the course of the arthritis in a case of gonorrhœa on the one hand and in ophthalmia neonatorum on the other lends emphasis to the statement that the checking of the urethral discharge is the first claim in a case of gonorrhœal arthritis. It can hardly be supposed that the delicate tissues of the child's joints are more resistant to the gonococcal poison than are those of the adolescent or adult, and the explanation of the contrasted joint complications must therefore be found in the readiness with which the supply of poison is removed in the one case and the difficulty with which it is checked in the other.

Weymouth-street, W.

THE ADVISABILITY OF PRELIMINARY TRACHEOTOMY AND LIGATURE OF THE EXTERNAL CAROTID IN SEVERE OPERATIONS ABOUT THE FACE.

BY CHARLES R. KEYSER, F.R.C.S. ENG.,
SURGICAL REGISTRAR TO ST. GEORGE'S HOSPITAL.

PRELIMINARY tracheotomy and ligature of the external carotid artery are indicated in excision of the upper jaw, excision of the lower jaw, and removal of the tongue in some cases. In the latter, where a small portion only has to be removed and that portion is at or about the tip of the organ, this method is unnecessary.

In advocating what at first appears to be a somewhat severe measure I am aware that there are many who can point to a large number of cases in which the operation has been most successfully accomplished without the preliminary tracheotomy and ligature of the external carotid artery and in which the patient recovered without any untoward symptoms. But I maintain that in the majority of instances in which the operation, especially of removal of the upper or lower jaw, is required it is practically impossible to tell beforehand what the difficulties will be. To some extent, no doubt, it may be surmised that in one direction—viz., hæmorrhage—there will or will not be much danger; for example, in dealing with a rapidly growing exceedingly vascular sarcoma, hæmorrhage is expected and arrangements are made accordingly, but it is impossible to foretell in any given case whether the jaw can be removed with ease and comfort to those chiefly concerned, these being the patient, the operator, and the anæsthetist.

The main reasons for advocating the triple operation are as follows. The almost complete absence of bleeding after the external carotid has been ligatured. Besides the danger to the patient from loss of blood, which in many cases can be efficiently controlled without tying the main vessel, hæmorrhage obscures the view of the affected parts and renders it more likely that some portion of the growth or diseased tissue may be left behind. The operator is much more at his ease and need not be in a hurry. This is especially an advantage in removal of the superior maxilla for malignant disease. All surgeons must have seen cases where in this operation everything goes quite satisfactorily up to the point of twisting out the bone with lion forceps and giving the last few cuts with the knife which sever the remaining tissues which still hold the bone in place. What so often happens at this point? In the large majority of instances the bone and growth crumple up under the pressure of the forceps and are torn out in pieces, soft masses of growth and hard spicules of bone being forced in all directions, often into the patient's pharynx or even into the larynx, and all is for the moment flurry and excitement, the surgeon endeavouring to get away the bone and growth and the anæsthetist sponging out the pharynx to enable respiration to be carried on. Even if these conditions are absent the last few strokes of the scalpel often divide some large vessel, such as the internal maxillary artery, and the field of operation is flooded with blood. With the external carotid ligatured and a tracheotomy tube in place, the pharynx being plugged with a sponge, none of these difficulties occur and the operator and the anæsthetist can proceed with deliberation and ease. Apart from a perhaps slight immediate danger of hæmorrhage there is another point: no blood enters the larynx and air-passages.

In a certain number of cases, no doubt much smaller now than formerly, broncho-pneumonia supervenes in a few days after operations such as excision of the tongue or jaw. This is nearly always septic in character and many patients have lost their lives from this cause when the operation has been quite successful in all other respects. I believe that the cause of this lung-trouble is almost invariably the result of putrefaction taking place in blood or blood-clot which has entered the air-passages at the time of operation. It is often stated that this complication is caused by the air which is inhaled passing over the wound and so carrying some virus to the lungs but the treatment of the cut surface nowadays is such that this cannot be reckoned as having much influence in the production of broncho-pneumonia. On this point I have quite recently seen two cases of partial excision of the tongue which bear on the question. Both were cases of epithelioma of the tongue; in one the patient was comparatively young and strong, the growth was of short duration, the tongue was not adherent, and there were no enlarged glands in the neck. In the other case a man was older and more feeble, the tongue was slightly adherent, and there were epitheliomatous glands in the neck. Both were operated upon on the same day by a well-known surgeon whose skill is beyond question. In the first case the growth was excised in the ordinary way by Whitehead's method. In the second case the glands in the neck were first removed and the external carotid was ligatured before removing the tongue. In this case the patient soon recovered and is now quite convalescent. The other, in whom the carotid was not tied, developed an irregular temperature, cough, and shortness of breath, and is still exceedingly ill. Signs of fluid in the chest appeared and a large horribly foul empyema was opened and drained. It had apparently been caused by an abscess in the lung and surgical emphysema developed all over the affected side of the chest. Although in the case given tracheotomy was not performed, the absence of all hæmorrhage and, in consequence, of all septic changes occurring in the air-passages, prevented any complication of the lung. I may also mention that the two patients are not only in the same ward and looked after by the same nurses, &c., but are in adjoining beds, so that the possibility of any external cause for the complication of the lung is extremely improbable.

It is of great importance to ligature the external and not the common carotid artery, as if the latter proceeding is done the hæmorrhage is very inefficiently controlled owing to the exceedingly free anastomosis through the circle of Willis and there is some danger of cerebral symptoms appearing subsequently. The most convenient position for the ligature is between the superior thyroid and lingual branches and in this situation the operation is not of great difficulty. Although, as mentioned above, there is not, as a rule, much danger to life from hæmorrhage if the carotid is not ligatured, yet within the last two years I have seen two fatal cases, one in which half of the tongue was removed for a papilloma and another in which excision of the upper jaw for sarcoma was performed.

There is no necessity to use a special tube or tampon for the trachea as an ordinary tube answers every purpose if at the same time the pharynx is plugged with a good-sized sponge. The following cases, which Mr. Herbert W. Allingham has kindly allowed me to publish, illustrate the kind of disease in which this method of operating is of use. The first four have already been published[1] but the remainder have not yet been recorded.

CASE I.—The patient, aged 48 years, was suffering from epithelioma of the posterior part of the tongue, involving the anterior pillar of the fauces and the floor of the mouth. The submaxillary and the vertical chain of cervical glands were

[1] Practitioner, May, 1899, p. 572.

also infected. The left half of the tongue and all the glands were removed.

CASE 2.—The patient, aged 41 years, was suffering from a malignant ulcer of the right side of the tongue, involving the floor of the mouth, the submaxillary and the cervical glands. The right half of the tongue and all the glands were removed.

CASE 3.—The patient, aged 67 years, was suffering from a sloughing epitheliomatous growth involving the left side of the lower jaw. The latter was excised.

CASE 4.—The patient, aged 33 years, presented an enlargement of the superior maxilla with bulging of the palate downwards, and extension upwards on the face involving the skin and causing closure of the eyelids. The upper jaw was excised.

CASE 5.—The patient, aged 60 years, had extensive epithelioma of the anterior half of the tongue. This was removed.

CASE 6.—The patient, aged 48 years, was suffering from very extensive sarcomatous growth arising from the antrum and extending through the floor of the orbit and also into the ethmoid. The tumour was very soft and friable. The upper jaw was removed.

CASE 7.—The patient, aged 44 years, had very extensive carcinoma of the antrum which involved the nose, the pharynx, the lower jaw, and the tissues behind the internal pterygoid muscle. The upper jaw and all the growth were removed.

CASE 8.—This case was one of malignant disease of the lower jaw; this was excised.

In all these cases the triple operation was performed; there was practically no hæmorrhage or any cause for anxiety and all the patients made an excellent and rapid recovery. The tracheotomy tube may be removed on the day following the operation and there is never any trouble arising from the wound in the trachea. I feel sure that if these preliminary steps are taken in all such cases where extensive surgical proceedings are necessary, the operation of either excision of the upper or lower jaw will cease to be regarded as one of great difficulty or danger.

St. George's Hospital.

NOTE ON TWO CASES OF "ULCERATED SORE-THROAT."

BY EDWARD C. BOUSFIELD, L.R.C.P. LOND., M.R.C.S. ENG.,

BACTERIOLOGIST FOR THE BOROUGH OF CAMBERWELL.

IT will be thought incredible in 20 years' time that with means of rapid and accurate diagnosis at hand and with a remedy of proved efficacy available patients should have been allowed to incur serious and often fatal risks for want of the application of the one and the employment of the other. At the present moment, unfortunately, daily experience shows that a large number of medical men allow themselves to be bound by the old traditions, handed down from days when bacteriology was unknown, as regards both the diagnosis and treatment of throat affections of a more or less doubtful character.

The two cases with which I propose to deal have both occurred within my own immediate family circle and the results have been such as I have described. In the first, a slight attack, my request to be allowed to have a swab sent to me for examination was refused, and even when fluid began to return through the nostrils and speech was affected the practitioner in attendance strenuously denied that the attack had been one of diphtheria and said that he had seen paralysis follow tonsillitis. The patient has since suffered from paralysis of nearly all the chief motor centres, one after another, and is now only slowly and partially recovering. In the other case, unfortunately, the results have been far more serious. The patient, taken ill with an attack in which there was on the second day a "slough" upon one tonsil, which repeated itself upon the other and was followed by a similar patch on the uvula, succumbed on the fifth day to suffocation caused by extension of the disease to the larynx and trachea. In this case, but for the positive assurance up to the end of the fourth day of the practitioner in attendance that the case was not one of diphtheria, the parents would not only have permitted but insisted upon the employment of antitoxin and bacteriological examination.

It will be seen that the net result of the "ulcerated throat" heresy in these two cases has been disastrous and the practitioners in attendance have lost the confidence of the parents in each case because they relied absolutely upon their own unaided, and therefore necessarily uncertain, diagnosis, when the latter might have been made certain, or rather corrected, within a few hours.

My main object in drawing attention to these two cases is to repudiate in the strongest possible terms the idea that "ulceration of the throat"—i.e., the presence of a "slough" upon the tonsils or pharynx—can be due to other than one of two causes—namely, syphilis and diphtheria. Follicular tonsillitis, in which the follicles become blocked with a white secretion as hard as cartilage in many cases and containing usually only diplococci, has nothing in common with either of the two just mentioned. In this case the secretion can be removed and the surface of the tonsil is unaffected by the act. In quinsy I have never seen a membrane of any kind upon the surface of the tonsil, and scarlet fever does not enter into the question.

I am well aware that in some cases which are genuinely diphtheritic the specific bacilli are not found. The explanation of this fact is twofold. First, in slight cases their number may be but small and it is necessary after about nine hours' growth to distribute the small number of minute colonies present over the surface of the medium—that is, to re-sow or to plant out the organisms in order to demonstrate their presence. The second point is that the material from which the culture is made may not have been properly taken. I attach the greatest possible importance to thorough wetting of the swab. The diphtheria bacillus does not possess a very high degree of resisting power, and when absorbed in addition into the interstices of a dry swab, possibly in very small numbers, the transference to the culture medium may be fruitless. I contend, however, that with a swab properly taken and sufficient care in the examination the cases of "ulcerated throat" in which the bacillus of diphtheria will not be found are infinitesimal in number. It may be worth while to add that since the culture medium is highly selective the use of ordinary water for wetting the swab is quite unobjectionable.

It may also be added with reference to treatment that there is no justification in a doubtful case for postponing the use of antitoxin. In a previous communication I stated that the use of antitoxin was as harmless as the injection of water. To this statement the Editors of THE LANCET rightly took exception. I admit, and apologise for, the error, as I should have stated that whilst water may conceivably contain germs of disease antitoxin properly prepared is a sterile fluid of unirritating qualities and therefore less likely to be injurious than water. Personally, I have never heard an objection raised by a patient or by the friends of a patient to the use of the remedy. Of course, if the medical attendant speaks doubtfully of the remedy and refers to the pain of the injection he has no one to thank but himself if the lead so given is followed. My experience is that the dread of diphtheria in the popular mind is rightly so great that the assurance of cure, or of a fair prospect of it, is eagerly welcomed, and that there is not the least difficulty in inducing persons exposed to infection to submit to prophylactic injections. At the moment of writing, having yesterday received a full prophylactic dose, I am absolutely unable by my sensations to locate the seat of injection, and the operation itself is one which I have frequently performed even upon young children with scarcely a whimper on the part of the subject.

The importance of the matter must be my apology for the length of this communication. Five years' work as a municipal bacteriologist has made me fairly well acquainted with the position of my brethren on this subject, and it is in the hope that a few more converts may be secured that I have been tempted to publish my own most regrettable experiences.

Old Kent-road, S.E.

PLYMOUTH BOROUGH LUNATIC ASYLUM, BLACKADON.—The report of the Plymouth Borough Lunatic Asylum for 1901, which has just been issued, states that there were 275 patients in the institution at the beginning of 1901 and 54 cases were admitted during the year. 19 deaths occurred and 28 cases were discharged recovered, four were relieved, and 10 were not improved. The cost of maintaining patients was 10*s.* 6*d.* per week per head. The committee reported that the sanction of the Local Government Board has been given to a loan of £40,000 for the extension of the asylum buildings and the work is to be shortly commenced.

RADICAL CURE OF INGUINAL HERNIA.

BY JOHN O'CONOR, M.A., M.D. DUB.,
SENIOR MEDICAL OFFICER, BRITISH HOSPITAL, BUENOS AYRES.

So much has already been written on the subject of the radical cure of inguinal hernia that I feel a little diffidence in publishing some conclusions derived from 350 operations, 140 of which were performed by Halsted's, 120 by Kocher's, and 90 by Bassini's and other methods. As elsewhere stated[1] I had to abandon Halsted's operation owing to the too frequent supervention of orchitis, with consequent atrophy of the testis, which I attributed in part to removal of veins irrespective of varicocele—vessels which presumably have some functional reason for existence. I considered, also, transplantation of the cord from its normal conduit to be very questionable surgery, in that no one can determine the amount of pressure which may arise from subsequent cicatricial contraction, not to mention the immediate possibility of backflow from injudicious suturing. The cord naturally passes out of the abdomen through the internal ring, which is anatomically so constructed that no undue pressure can be exercised on its contents, yet we find ourselves performing operations by the hundred in which the capacity of outlet is left to speculation, for contractile living tissue is beyond the pale of mathematical calculation. Recently it has been reported that Professor Halsted has abandoned transplantation of the cord. If this should be so I think that he has made a move in the right direction, and he might further improve his operation by omitting the removal of veins which in many instances leads to fatty degeneration and ultimately to disappearance of the testicle.

These remarks as to tampering with the position of the cord apply equally to Bassini's method, in which it is placed between the oblique. This operation has a further important disadvantage in that an intermuscular space is created in which the cord rests, which obviously renders the procedure inferior to that of Halsted, who brings all the muscles into close juxtaposition and also affords a convenient site for the collection of serum which, taken in conjunction with buried sutures, only requires the ubiquitous coccus to create a sore which may weep for months or years. We are informed by some that buried sutures never cause any trouble, and by others, equally dexterous and aseptic, that they never use them if it can possibly be avoided as their experience is just the reverse. After a personal experience of over 1000 abdominal operations I confess that I am most sceptical as to the tranquillity of buried unabsorbable sutures, particularly silk, in the abdominal wall, and I think that the indiscriminate manner in which the latter is used in many hospitals is extremely reprehensible. Still, every surgeon must of necessity occasionally employ them, and a rule might with advantage be instituted never to bury an unabsorbable stitch in a submuscular cavity where serum and blood are prone to collect and to corrupt.

Bassini, Halsted, and Macewen have the same object in view—the approximation of the deeper muscles—and all credit must be given to their originality in establishing a practical and logical basis for any reasonable method of radical cure. Notwithstanding this Kocher's operation has many partisans, which I think must be attributed to its simplicity, yet I cannot admit that his method of fixing the stump of the sac to the abdominal wall, with or without inversion, can materially influence the cure or the probability of recurrence. As one's experience grows one is forced to place little reliance on peritoneal adhesions. At best their function is very temporary in plastic surgery; reference to the illustrations in the chapter on Hysteropexy in Howard Kelly's "Gynecology" will confirm fully this statement. Again, I have often puzzled over the *rationale* of his method of roofing the aponeurosis over the inguinal canal which is done by infolding. It stands to reason that the infolded external oblique must act as a buffer by which the deeper structures are prevented from approximating when the sutures are drawn taut. Notwithstanding these objections Kocher's operation has yielded me as good results as the others, with about 6 per cent. (reported) of recurrences, with decidedly less orchitis, and with a further advantage—no splitting up of structures which surgery cannot replace. No amount of cicatricial plastering can ever imitate the normal formation of the part, and as Professor Kocher truly remarks about his operation, if recurrence does take place the patient is no worse off than before. The same cannot be said of a Bassini, a Halsted, or a Macewen method, for it has fallen to my lot to undertake secondary operations in cases which had been treated by the latter methods, and in each instance I encountered an attenuated cicatricial jumble which not only rendered the execution of any operation difficult but taxed one's resources to the utmost to find material with which to build up even a pretence of a fortification. In other words, if recurrence follows division of the internal or external oblique the last state is emphatically worse than the first.

Having had ample opportunity of studying the merits of the various structures concerned with inguinal hernia (I wish here to express my gratitude to Professor D. J. Cunningham and Professor Moorhead of Dublin University for recently furthering my knowledge by demonstration on the dead subject), I have come to the conclusion that the keystone to any radical cure is the approximation of the conjoined tendon to the lower shelf of Poupart's ligament. The latter, by the way, is well known to students of anatomy but inferiorly comprehended by many surgeons who imagine themselves capable of performing an orthodox Bassini operation. Probably it would be expedient to dispense with the term "lower shelf" altogether and to stick to the anatomical one, "Gimbernat's ligament," which it may be well to remember is continuous along its inferior margin with some fibres of Cooper's ligament.

I have practised the following operation in 20 cases and so far with satisfactory results. A four-inch incision is made over the line of the inguinal canal, the sac is isolated from the cord, it is opened and its interior is carefully inspected, and it is palpated well into the abdominal cavity. (Some years ago, by the way, I had the misfortune to ligate and to excise an inch of cæcum which the above precaution would have obviated.) Next, my assistant draws the sac forcibly downwards, and while retaining my left index finger within the sac near to the internal ring in order to prevent intestine or omentum getting caught, I transfix and ligate with catgut and cut away the distal portion. Before complete separation takes place a pressure forceps is applied to its proximal end, in order that a final inspection may be made before it is allowed to fly back into the abdomen, for a chase after a bleeding point in a retreating stump is not pleasant. The conjoined tendon and Gimbernat's ligament are next thoroughly differentiated from the surrounding parts and with the left index finger introduced into the canal to act as a guide and protector of important relations four strong fishing-gut sutures are inserted by a curved hernia needle about half an inch apart, from within outwards through Gimbernat's ligament and the external oblique, the ends being retained outside the aponeurosis. The free ends are threaded in rotation on a hernia needle with an opposite curve and are carried from within outwards well into and through the substance of the conjoined tendon, these ends being similarly retained outside the sheath of the tendon. A straight aneurysm needle is next made to enter the suture hole in the tendon, passed across, and made to emerge through the corresponding suture hole in the external oblique. The end of this portion of suture is attached and drawn across and out through the aperture of entry of the needle; thus, the two ends emerge from the same hole in the sheath of the tendon and form a circular submuscular suture. When the four are thus applied—and this does not take a quarter of the time to insert that it does to describe—the assistant draws the cord downwards and the sutures are tied with sufficient force to draw the tendon backwards in front of the vas to Gimbernat's ligament, care being taken in the adjustment of the lower sutures not unduly to compress the vessels of the cord. The ends of the stitches are then snipped off, when the knots retreat into the substance of the conjoined tendon and are sealed over by a catgut suture through each aperture. The operation, which occupies usually from 10 to 15 minutes, is concluded by uniting the skin wound with a continuous blanket suture.

It may be germane to the subject of this paper to mention the treatment of adhesions in hernial sacs. In recent hernias adhesions may be brushed off with a piece of sponge or gauze or coaxed away with the pulp of the finger; in old cases it is quite another matter, for generally one finds the omentum so incorporated in the sac wall that a portion of the former must be excised and in performing this little operation it is most desirable to avoid the practice of surgeons who insert

[1] THE LANCET, August 26th, 1899, p. 564.

interrupted ligatures with sharp instruments, leaving a clear space between each; it is needless to state that this kind of procedure necessitates a fumbling procedure of ligaturing in the mass when the unoccluded vessels begin to spirt. Instead the omentum should be held up and kept well spread out by an assistant while the surgeon introduces a medium silk interlocking ligature, care being taken not to puncture a vessel with the point of the blunt introducer. The loss of one patient from post-operative omental bleeding is my reason for inviting serious attention to the matter.

In conclusion, the advantages which I claim for my hernial operation are that the two most suitable structures for effective barrier formation in the inguinal region are utilised without any anatomical sacrilege and without the formation of potential spaces which so often prove a bugbear to aseptic surgery.

Buenos Ayres.

A CASE OF APPENDICITIS WITH GENERAL PERITONITIS;

RECOVERY AFTER REMOVAL OF APPENDIX, FOLLOWED BY SECONDARY INCISION INTO THE CÆCUM FOR EXTREME PARALYTIC DISTENSION.

BY FRANK COLE MADDEN, M.B., B.S. MELB., F.R.C.S. ENG.,

PROFESSOR OF SURGERY, EGYPTIAN GOVERNMENT MEDICAL SCHOOL SENIOR SURGEON, KASR-EL-AINI HOSPITAL, CAIRO.

THE following case presents many interesting features and illustrates the grave complications that may result from appendicitis and the possibilities of recovery.

A man, aged 35 years, an American travelling in Egypt, was suddenly seized with pain in the abdomen and rapidly developed all the classical symptoms of appendicitis. I first saw him in consultation with Dr. F. M. Sandwith at the request of Dr. May, with whom he was travelling, on Feb. 19th, at 9 A.M. He was then in great pain and had a general distension of the abdomen, but no definite tumour could be made out. We at once decided upon operation. This was performed in a nursing home a few hours later, within 36 hours of the onset of symptoms. Although it was a first attack, on opening the abdomen by a curved incision in the usual situation thin lymphy pus at once escaped as soon as the peritoneal cavity was reached. There were considerable distension of the whole of the intestines and intense general peritonitis. The appendix was found very deeply placed in a pouch to the outer side and behind the cæcum and was with difficulty removed. There were patches of almost gangrenous inflammation on the cæcum and the adjacent coils of small intestine. The appendix itself was soft and gangrenous and contained two large concretions, just above the lower of which was a ragged perforation. There had been no attempt to shut off the appendix area from the general peritoneal cavity either by lymph or by adhesion of coils of intestine. The appendix was ligatured close down to the cæcum and removed, but all attempts to cover the stump with peritoneum were unsuccessful as the sutures cut through the soft inflamed tissues at once. Pus welled up everywhere between the coils but tended to collect towards the pelvis and in the pouch which contained the appendix. The peritoneal cavity was not washed out but the pelvis and the pouches round the cæcum were gently swabbed out with sterilised gauze and a gauze drain, running down to the stump of the appendix, was brought out through the middle of the wound in the abdomen, which was sutured in layers.

The day after operation there was a great improvement in all the symptoms. The pulse was good (82) and the temperature was 98·8° F. (103° before operation), but there were still a good deal of abdominal distension and rather troublesome hiccough. After an enema of soap-and-water and turpentine much flatus and some fæces were passed with considerable relief. One fluid ounce of peptonised milk was given every hour by the mouth, the quantity being gradually increased as there was no vomiting. One-fiftieth of a grain of strychnine was given hypodermically every four hours, the evening dose combined with one-quarter of a grain of morphia.

The wound was dressed after 48 hours and the drain renewed, though there was very little discharge. Small doses of calomel (one-tenth of a grain) were administered on the following day every half hour for three doses and then hourly until the bowels were moved. The patient's condition remained fairly satisfactory for six hours after the operation, but then the scene changed; the whole peritonitic blaze seemed to light up again and with it the distension rapidly increased to an alarming extent. Distended transverse colon could be made out nearly to the nipple line on both sides and there was considerable respiratory difficulty and cardiac distress. The temperature was 104° F., the pulse was 140 and markedly peritonitic, and the general condition became very grave. Vomiting also set in accompanied by hiccough and the vomited matters became rapidly fæcal. Large quantities of dark-brown fluid were pumped up which on standing precipitated a thick brown deposit of fæces and emitted a most offensive fæcal odour; in fact, the vomit consisted of pure fæces. During the night the distension appeared to become even greater than before in spite of turpentine enemata, strychnine injections, fomentations, turpentine stupes, &c., and the fæcal vomiting was practically continuous. The patient really appeared to be dying, but at 5 A.M. on the following morning, Feb. 26th, in response to Dr. May's earnest appeal "to try to do something," I removed the middle sutures of the abdominal wound and made an incision into the cæcum, which presented in the depths and which I had no hesitation in opening in situ, as I felt certain that all the parts in the neighbourhood must have become adherent all round and so have shut off the area of operation from the general peritoneal cavity. A large quantity of fæcal matter and brownish discharge and flatus came away at once from the incision and continued to do so for several minutes. The material obtained from the cæcum and the stomach was identical in character. The tube of an irrigator was then passed into the rectum and the whole of the large intestine was thoroughly irrigated with boric lotion, which all came away by the wound in the cæcum. To prevent any possible risk of leakage of fæcal matter into the peritoneal cavity four anchoring sutures were inserted to keep the cæcum in close contact with the abdominal wall. At the same time the patient was made to swallow two large draughts (one pint) of warm water, which were soon returned but fulfilled their purpose of washing out the stomach very thoroughly, and from that time the fæcal vomiting completely ceased. From the moment of the cæcotomy the patient's condition improved, his temperature gradually returned to normal, and all the grave symptoms subsided. The wound was left widely open and packed with gauze to induce it to heal by granulation from the bottom, while the fæcal fistula discharged freely in the centre. Apart from some irritative cough and occasional rather obstinate hiccough the further progress of the case was uneventful, and gradually more and more of the fæces were passed by rectum. On March 11th the skin and subcutaneous tissues around the whole area of operation were infiltrated with Schleich's fluid and several deep silkworm-gut sutures were inserted to approximate the granulating surfaces of the sides of the wound, leaving a small opening in the centre at the site of the fistula. The wound gradually filled up with granulations and later an attempt was made to destroy the redundant everted mucous membrane by frequent applications of silver nitrate. Finally, the projecting ring of membrane having been thus destroyed two rows of mattress sutures of fine silk were inserted across the fistula and completely closed the opening. This little operation was not, however, a complete success, as the middle sutures cut through and the fistula was re-established to some extent but was of much smaller calibre. A further attempt of the same kind also failed and the patient left for Europe in very good general condition but with a rapidly closing cæcal fistula. The bulk of the fæces passed by rectum, the discharge from the cæcum being soft and semi-fluid and only profuse to any extent at night.

The case is of interest for several reasons, but mainly from a practical point of view, because of the patient's recovery from an apparently hopeless condition. There is also the history of a first attack of appendicitis going on within 36 hours to a general peritonitis, which teaches the lesson of the dangers of delay in operation on these fulminating cases, and who is to say what course any attack of appendicitis will take? Further, the great improvement following the original operation, in spite of the fact that the peritoneal cavity was not washed out and was only partially drained, shows in this instance, at any rate, that the confidence we have in the power of the peritoneum to take care of itself is not misplaced, even though the membrane be already in a condition of intense inflammation.

I have often thought whether, if I had done an enterotomy at the first operation and perhaps injected sulphate of magnesia into the bowel as well, the further progress of the case might not have been quite satisfactory, although I did not think at that time that the distension was sufficiently marked to justify such a procedure. It seemed that a fresh wave of peritonitis occurred after seven days and this, rather than any intestinal condition, probably determined the excessive distension, for the bowels were acting fairly well at the time of the onset of the alarming symptoms. The intestinal obstruction was due entirely to the paralytic distension for which any operation other than the cæcotomy would have been impossible owing to the patient's exceedingly grave condition. The opening of the cæcum was done entirely without anæsthetics of any kind and it is rather an interesting fact that the patient has not the slightest recollection of what was happening during the few days when his life was trembling in the balance. He does not even remember being sick, which was a mercy, as the fæcal vomiting was anything but pleasant. All the ordinary methods for combating distension having failed and realising that an enterotomy was the only possible treatment but that it was quite impossible to attempt an abdominal section owing to the patient's condition, it occurred to me that the cæcum *must* be safe, for it must certainly be adherent at one point in the depths of the wound after the drainage and the matting together of the parts around it which must have occurred as the peritonitis subsided. Lockwood[1] writes: "I have seen my colleagues Harrison Cripps and Bruce Clarke in desperate cases of flatulent distension successfully establish a temporary opening in the cæcum or ileum. Hitherto, I have not been obliged to resort to this expedient after appendectomy." It must, however, be of comparative rarity that the recrudescence of general peritonitis a few days after an operation of this nature gives rise to such a treatable condition as paralytic distension, unless it leads to the formation of a localised abscess; for, unfortunately, cases that flatter the surgeon so much by their great improvements for a few days so often end fatally most insidiously, allowing him only the opportunity of making a diagnosis but without offering him justification for further operative treatment of any kind.

My best thanks are due to Dr. Sandwith for his valuable help in the after-treatment of the case, to Dr. May who was untiring in his devotion to his friend and irrepressible in his efforts to stimulate me to fresh endeavours, and to Dr. Beebe, in whose capable hands our patient eventually left Cairo. Finally, to Dr. Keen of Philadelphia, who happened to be passing through Cairo shortly after both operations, we are all indebted for his powerful moral support and for his kindly encouragement and advice.

Cairo, Egypt.

[1] Appendicitis: its Pathology and Surgery, p. 289.

COMPLAINTS AGAINST A PUBLIC VACCINATOR.—At the meeting of the Chipping Sodbury Board of Guardians held on May 21st a letter was read from the Local Government Board stating that their vaccination inspector had reported that one of the public vaccinators of the Chipping Sodbury Board of Guardians had not performed any vaccinations during the quarter ending March 31st, 1900, nor during the quarter ending March 31st, 1901, and that he did not comply with the directions of paragraph 6 of the third schedule of the Vaccination Order of 1898 as to the aseptic precautions to be taken in vaccination. The guardians eventually decided to forward the letter to the public vaccinator.

NATIONAL SANATORIUM FOR CONSUMPTION, BOURNEMOUTH (OPEN-AIR TREATMENT).—The annual general meeting of governors of the National Sanatorium for Consumption, Bournemouth, was held on May 8th, at the Westminster Palace Hotel, Mr. Arthur F. Jeffreys, M.P., being in the chair. The annual report of the committee, with the statement of accounts for the year 1901, was placed before the governors, showing a deficiency of £431 instead of a balance in hand, as in the three preceding years. This was attributed mainly to a falling-off in donations and to special expenses connected with efficiently carrying on the open-air treatment of patients now sucessfully adopted for some years past. Measures were considered for meeting the deficiency and for obtaining increased funds for carrying out the proposed extension of the building at a cost of about £1200 and it was resolved that a further appeal for donations and subscriptions should be made to the public.

A Mirror OF HOSPITAL PRACTICE, BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv., Proœmium.

ROYAL SOUTHERN HOSPITAL, LIVERPOOL.

A CASE OF PERFORATED GALL-BLADDER SIMULATING PERFORATED GASTRIC ULCER.

(Under the care of Mr. G. P. NEWBOLT.)

PERFORATION of the gall-bladder is generally the result of ulceration due to the presence of one or more gall-stones, but Dr. Norman Moore has described a case[1] in which there was very extensive ulceration of the mucous membrane of the gall-bladder without the presence of any concretion. In the following case perforation occurred without any previous symptoms pointing to the existence of biliary calculus. This also happened in a case recorded by the late Dr. W. M. Ord.[2]

On March 15th, 1902, Mr. Newbolt saw a married woman, aged 48 years, in consultation with her medical attendant. She was very ill and was evidently suffering from some grave abdominal lesion. She had suffered for some years from attacks of dyspepsia but had never had hæmatemesis or jaundice. There was nothing pointing to any affection of the gall-bladder. For about a week before Mr. Newbolt saw her she had been suffering from an attack of dyspepsia and for two nights had not slept on account of the pain in the abdomen which she referred to the umbilicus. During this time she had only taken a little liquid food. At 10 A.M. on March 15th she was seized with agonising pain at the umbilicus which caused her to double up and to collapse. On examination three hours later her pulse was 110, feeble, and easily compressible; her abdomen was not distended but was hard like a board and tender all over, and her temperature was 102° F. The liver dulness was present and her bowels had acted two nights previously. She was an unhealthy and delicate-looking woman. Having come to the conclusion from the acute pain and sudden collapse, together with the history of dyspepsia, that a gastric ulcer had perforated Mr. Newbolt advised the performance of an exploratory laparotomy, and as it was impossible to do this in her home she was removed in an ambulance to the Royal Southern Hospital.

The abdomen was opened in the middle line above the umbilicus and at once yellow, turbid, serous fluid was seen amongst the coils of small intestine. The abdominal muscles were very rigid though the patient was deeply under chloroform and some difficulty was experienced in getting the stomach into the wound. A thorough examination of this organ back and front revealed no perforation and so it was distended with a pint of water passed by means of an œsophageal tube. The fluid, however, did not escape and it was evident that the stomach was not at fault. The incision was therefore enlarged down below the umbilicus, and on introducing the hand into the right flank a large gall-stone was felt in the cystic duct, as well as a very much distended gall-bladder covered in by the liver which was enlarged and to the under surface of which the gall-bladder was adherent. There was a minute hole in the gall-bladder from which thin, puriform fluid was escaping. A transverse incision was next made into the right loin; the gall-bladder was exposed and opened freely and six large stones were removed, one being impacted in the cystic duct. It was necessary to cut away the sloughing part of the gall-bladder which was behind and to the inner side of the fundus; the edges were then inverted and sewn over, completely closing the cavity. Having thoroughly cleansed the abdominal cavity a gauze pack was left in leading down to the gall-bladder and the right flank was drained by placing a tube

[1] Transactions of the Pathological Society of London, vol. xlii., p. 178.

[2] THE LANCET, Nov. 5th, 1887, p. 912.

below the kidney. The patient stood the operation well and promised at first to make a good recovery; she sank, however, five days after the operation, apparently from exhaustion. There were troublesome vomiting and slight distension unrelieved by salines or enemata. As far as the wound went all was satisfactory and there was no extravasation. The gall-bladder was shut off from the general peritoneal cavity and there were no signs of general peritonitis.

Remarks by Mr. NEWBOLT.—In those cases in which a stone ulcerates through the gall-bladder mischief is usually avoided by the adhesions which glue the affected organ to neighbouring parts, either the viscera or the abdominal wall. There are several cases on record by different observers in which acute peritonitis has been set up by a perforation of the gall-bladder the contents of which have escaped into the abdominal cavity, and there are one or two instances also which have been successfully operated upon. In the case related above it was impossible to make a diagnosis from perforated gastric ulcer and for this reason, though the result was fatal, I think that it is desirable to publish it. A close interrogation of the patient never elicited any history of gall-stones and she had always referred her pain to the region of the stomach. She had never been jaundiced at any time and was most definite on this point.

ROYAL NAVAL HOSPITAL, PLYMOUTH.

A CASE OF MULTIPLE ABSCESSES IN THE LIVER SECONDARY TO PERFORATING ULCER OF THE STOMACH.

(Under the care of Staff-Surgeon EDWARD R. D. FASKEN, R.N.)

MULTIPLE abscess of the liver is a very rare complication of gastric ulcer, whether perforated or unperforated, and very few cases have been put on record. C. Murchison has published an instance of this condition [1] but in that case general pyæmia also occurred. In the following case no signs or symptoms pointed to the existence of gastric ulcer. This latency occurs in no small proportion of cases. Savariaud [2] estimated the latent cases to form 20 per cent. of all cases of gastric ulcer.

On Feb. 22nd, 1902, an able seaman was admitted into the Royal Naval Hospital, Plymouth, under the care of Staff-Surgeon Fasken, complaining that he had suffered from abdominal pain on or off for about two years, situated chiefly in the right iliac fossa near the umbilicus. The bowels were acting irregularly. There was no history of vomiting. The temperature was 102° F. The hepatic dulness in the right mammary line measured five inches vertically. There was considerable jaundice. The pulse was 76. The abdomen was somewhat distended and palpation caused a good deal of pain, especially over the cæcum. The tongue was thickly coated. Fomentations and a glycerine enema were prescribed with bismuth and the patient was placed on a milk diet. On the evening of March 1st he had a rigor and complained of severe pain over the hepatic area. The temperature was 102·2°. On the 3rd he had more rigors and complained of a tender spot over the liver in the region of the gall-bladder. Paroxysmal rigors came on at irregular intervals and were followed by profuse perspiration with great prostration. The tongue became dry and brown and tenderness over the liver area was greatly increased. On the 22nd he vomited a quantity of greenish bilious fluid during the night. Two exploratory punctures were made into the liver below the costal margin but only a few drops of blood were extracted. On the 24th two more exploratory punctures were made behind in the eighth intercostal space, but again with a negative result. A few days later ascites and œdema of the lower extremities appeared, also a distinct pleuritic rub was heard on the right side. The hepatic dulness in the right mammary line was now six and a half inches but the enlargement was uniform and free from nodulation. On April 10th he was much weaker and greatly emaciated. The skin and conjunctivæ were markedly jaundiced. There was great tenderness on pressure below the lower margin of the right ribs, with incessant severe pain across the upper part of the abdomen and between the shoulders, which had to be relieved by injections of morphia. The area of splenic dulness was increased. The above symptoms all became gradually more aggravated. He still had irregular paroxysms of rigors, followed by fever and sweating. He gradually sank and died on the 15th.

Necropsy.—At the post-mortem examination there was found near the œsophageal end of the stomach on its anterior surface a circular ulcer of the size of half a crown with its edges slightly elevated and undermined. From the base of this ulcer a small fistulous channel passed into an abscess of the size of a hen's egg in the right lobe of the liver close to the gall-bladder. The liver was enlarged generally, weighing 96 ounces; both lobes were thickly studded with abscesses varying from the size of a pea to that of a walnut and containing thick yellow pus; the abscess cavity in connexion with the stomach was, however, filled with food material. The intervening hepatic tissue was very hyperæmic. There was evidence of considerable surrounding peritoneal inflammation; the stomach, transverse colon, duodenum, pancreas, and liver (the under surface) were all firmly matted together, the great omentum being adherent to the upper surface of the left lobe of the liver. The spleen was large, dark, and firm. The pancreas was hard and lumpy and was firmly adherent to the left kidney and spleen. The abdomen contained a quart of yellowish serous fluid. The right pleural cavity contained fluid and was encroached upon by the enlarged liver, the right lung being pushed up and collapsed and adherent at the base. The other organs were healthy.

Remarks by Staff-Surgeon FASKEN.—This case is of interest, as although the symptoms pointed to the probability of a pyæmic abscess in the liver, inasmuch as the patient had never been abroad, nothing in the history of the case led one to suspect ulceration of the stomach. There had never been any hæmatemesis or even definite history of vomiting, the only symptom complained of being general abdominal pain.

[1] THE LANCET, Feb. 29th, 1868, p. 278.
[2] Robson and Moynihan: Diseases of the Stomach, p. 104.

Medical Societies.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

The Etiology of Leprosy as observed in the Soudan and in South Africa.

A MEETING of this society was held on May 27th, Mr. ALFRED WILLETT, the President, being in the chair.

Mr. T. J. TONKIN made a communication on Some General and Etiological Details concerning Leprosy in the Soudan. Mr. Tonkin began his paper by defining briefly the particular leper area referred to—namely, the Soudan—and by giving a short sketch illustrative of the extent to which the disease prevailed there. Enormous quantities of the disease were to be found in the Soudan and northern Nigeria—an area of 500,000 square miles. He then passed on to describe what he believed to be the ordinary course of contagion in the Soudan. He had satisfied himself that it was a process of mediate contagion in which clothes played the chief part of vehicles. The customs of the Soudanese lent themselves to this. In the Soudan clothes were almost never washed. The native cloth was woven in narrow strips which were subsequently sewn together to make a piece. Cloth made in this way did not stand much washing. Rich men bought their clothes new and when they became soiled sold or gave them away. Through the working of this custom any one robe might have during its existence an almost unlimited number of owners, any of whom might have suffered, among other communicable diseases, from leprosy. Natives did not mind buying and wearing robes that had been worn by mutilated lepers. They might even see them stiff with leprous exudations without thinking it necessary to have them washed. Such robes as these they would wear all day and roll about at night with nothing between the prominences of their bodies and the hard matted surfaces which served them as beds but these leprous garments. Mr. Tonkin applied these facts to the explanation of the mode of dissemination of the disease by pointing out that it was exactly upon those prominences that (in the Soudan at least) the first sign of the disease most usually appeared. In attempting to account for the predisposition to leprosy Mr. Tonkin laid down what he referred to as the anitrogenous theory. In every leper field in the world if the average diet of the affected classes were tabulated it would in each case probably present the same specific defect. That defect was the lack of a sufficient quantity of nitrogenous elements. To

the effect of this dietetic imperfection he traced the liability to the disease. This factor of diet could not be regarded as the only one, but he considered it as the essential one. Turning to the question of heredity, out of 220 of Mr. Tonkin's cases in only 18 could an hereditary predisposing tendency be traced, and he did not regard hereditary predisposition as a necessary, or even an important, causal factor in the disease.

Mr. JONATHAN HUTCHINSON made a communication on Leprosy in Cape Colony and Natal. The paper was based upon the experiences gained during a tour in Cape Colony and Natal during the months of December, 1901, and January, February, and March, 1902. The tour was undertaken in order to examine as to the prevalence and distribution of leprosy in South Africa and more especially as to its connexion or otherwise with the Cape fish-curing trade. Among other conclusions arrived at by Mr. Hutchinson as the result of his investigations were the following:—1. That leprosy was almost, if not absolutely, unknown in South Africa before the Dutch occupation of the Cape; and that before the record of the first cases the Dutch had brought over Malays from Java to establish a fish factory at Cape Town. 2. That salt fish with rice was the staple food of the Dutch farmers and their Hottentot slaves at the time that leprosy was first observed, in 1756; and that since the first cases were observed the disease had gradually spread around Cape Town, in the first instance, and ultimately over almost the whole of what was now British territory, including the Free State and the Transvaal. 3. That the disease had prevailed very slightly in towns such as occurred in highly infectious maladies, but it had affected chiefly agricultural labourers; and that the disease, although very widely spread, was unequally distributed—dotted about amongst the agricultural and mining populations throughout Cape Colony who used very largely as food badly cured salt fish. 4. That in the Kaffir kraals of Natal there was good reason to believe that the disease was communicated from person to person and especially to young children, it being suggested that the mode of communication was by eating food direct from a leper's hand contaminated by secretions containing the living bacillus. This it was proposed to call "commensal communication." It seemed probable that in Cape Colony *de novo* production—i.e., without hereditary transmission or direct infection—by the use of salt fish had been the common cause of the disease, whilst in Natal commensal communication had been more frequent. The two hypotheses of fish-production and commensal communication taken together satisfactorily explained several difficulties which had hitherto been felt in reference to leprosy, such, for instance, as the non-occurrence of spread in well-civilised communities and its irregularity and uncertainty even amongst the most careless; the frequency with which young children suffered; the universally observed but varying disproportion of the sexes; and the scattered distribution of the disease without, as in the case of South Africa, any foci of great prevalence. Turning to the question of heredity, the facts which had come to his notice did not support the idea that this played any important part in the production of the disease. The chief object of the present paper, however, was to maintain two principal propositions. The first was that leprosy was undoubtedly communicable from person to person but that the mode of its communication was peculiar and did not come under the head of contagion properly so called. The second was that, although personal communication could not, of course, explain the *origin* of any disease, the facts as regards the origin and distribution of leprosy in South Africa strongly favoured the belief that it could arise without direct personal contagion as a specialised form of disease, possibly tuberculosis, from the eating of imperfectly cured fish. The facts which convinced Mr. Hutchinson on the first point were the following. Near the village of Howick, in Natal, on the open veldt, he saw young lads unquestionably the subjects of leprosy who had never left their native kraals and concerning whom it was morally certain that they had never eaten salt fish. They were living in the same kraal with adults who were the subjects of leprosy and who had probably obtained it in Cape Colony. Subsequently in other parts of Natal he met with precisely similar facts. Now, leprosy was not endemic in Natal; it could not be suggested that there were any conditions as regards food or mode of life which could conduce to it. The kraals were widely separated from each other on the open hillside and their inhabitants had usually enjoyed good health. Leprosy was of recent introduction and was met with only very sparingly. In all instances in which young persons were its subjects there was the history of its introduction into the affected kraal by an adult who had previously sojourned in a fish-eating district. The inference seemed inevitable that the disease in these cases had been communicated from one person to another. Nowhere, however, had it spread to many. Its incidence appeared to have been most erratic. A few had been taken and a great many who had apparently been equally exposed had been spared. The facts which seemed to support the hypothesis that in all cases in which the disease spread from person to person the bacillus was received by the stomach were very strong. The first symptoms of leprosy were almost always those of a blood disease. There was never any primary sore or other indication of local infection. The earliest phenomena, whether affecting the skin or the nervous system, were, as a rule, bilateral and implied blood contamination. It was impossible to believe in communication by the breath, for attendants in leper-houses and others who might be in constant and close communication with lepers never took it. It was also for the same reason impossible to believe in contagion through the skin. It was very rare for both husband and wife to suffer; and many experiments in inoculation had been tried without result. A comparison between syphilis and leprosy was also against the idea of the inoculability of the latter. These facts had been felt to be so strong that prior to the discovery of the bacillus there was a very general disbelief in the contagiousness of leprosy; and this was the verdict given by the Royal College of Physicians of London after a detailed inquiry. They were now confronted with the proved existence of a parasite and with evidence beyond dispute that in some way the disease could be communicated. The suggestion that the bacillus was received into the stomach by the direct contamination of food by leprous discharges met the requisite conditions. Such contamination of food was not likely to occur excepting under conditions of extreme carelessness as to feeding, and it was only amongst those who fed very carelessly that proofs of the communication of leprosy were met with. Amongst the cleanly communities of Europe and America, although there were plenty of leper patients who might serve as sources of infection, no such communication appeared to occur.—The discussion on the etiology of leprosy as raised in these two communications was adjourned until the next meeting on June 10th.

CLINICAL SOCIETY OF LONDON.

Inheritance of Recurrent Attacks of Jaundice with Hepato-splenomegaly.—Subsequent History of Three Cases of Colitis in which Right Lumbar Colotomy had been Performed Several Years Previously.—Annual General Meeting.—Election of Officers and Council.

A MEETING of this society was held on May 23rd, Mr. HOWARD MARSH, the President, being in the chair.

Sir THOMAS BARLOW and Dr. H. BATTY SHAW communicated a paper entitled, "Inheritance of Recurrent Attacks of Jaundice and of Abdominal Crisis with Hepato-splenomegaly." The observations giving rise to this paper were made upon two patients—a lad, aged 19 years, and his mother, aged 47 years. The youth when born was noticed to be a very delicate child and was pale and waxy-looking. At five years of age he was noticed to be jaundiced for the first time and since then there had been attacks of semi-jaundice lasting three or four days accompanied by pain in the upper part of the abdomen. For the last six years he had been troubled with indolent ulcers about the ankles. None of the patient's brothers or sisters suffered from attacks like these, though a brother had jaundice once in childhood. On admission into University College Hospital in 1899 the patient was found to be undersized for his age and looked anæmic and yellow. The liver was only moderately enlarged; the spleen was very enlarged, reaching two inches below the level of the umbilicus; there were signs of cardiac dilatation, more particularly of the left ventricle. The stools were repeatedly examined and were always found to be brown in colour. The urine very often was highly coloured; no bile could be demonstrated, but urobilin was detected spectroscopically. Examination of the

blood showed signs of secondary anæmia. The temperature rose a little but was never more than 99·6° F. The boy was again admitted in May, 1901. There was practically no change in the size of the spleen but a slight reduction of the liver dulness below the right costal margin. A few glands were noticed in the neck. Besides a reduction in the number of red corpuscles of the blood and of the hæmoglobin, poikilocytosis, nucleated red corpuscles, and basophile cells were met with, and during the earlier part of his stay in the hospital the leucocytes numbered 14,000 per cubic millimetre. The woman had her first attack of jaundice when about five years old and had had repeated attacks since. With the jaundice there were pains in the upper abdomen and vomiting. She had one attack whilst pregnant with the child whose condition had been described. In an attack observed in September of last year the liver and spleen were found to be considerably enlarged. Urobilin and bile were absent from the urine. The examination of the blood showed the same characters as that of the son except that there were no nucleated red corpuscles. She had an indolent ulcer on the right leg, its onset dating before marriage. Both patients had always resided in England. There was no evidence in either case of septic infection; both mother and son were very temperate; during infancy a little brandy was given to the son daily for about a year. Very similar attacks occurring in three generations had been described by Dr. Claude Wilson and Dr. James Finlayson had called attention to the occurrence in several collateral members of a family. The special points to be noted in the above two cases were: (1) the chronicity of the affection, lasting in the son at least 14 years and being probably congenital and in the mother for a much longer period; (2) the occurrence of indolent ulcers in both cases; (3) the jaundice was always slightly present and underwent periodic intensification and was then associated with pain in the liver or spleen or in both; (4) the mother appeared to be a case of Hannot's cirrhosis of the liver, whilst her son could not but be considered as an earlier incomplete stage possibly of the same malady; and (5) finally, attention was called to the extremely guarded prognostic view to be held in such cases. The woman had grown to maturity and had had a family of several children and but for the disturbance caused by the periodic attacks of jaundice and abdominal pains was able to enjoy life. Sir Thomas Barlow added that the important point of these cases was the heredity of the disease. It was interesting to compare groups of inherited diseases; such, for instance, as Friedreich's disease which was an inherited form of locomotor ataxy. These inherited diseases differed from the corresponding acquired diseases. It would be premature to regard the cases which he and Dr. Shaw had recorded as biliary cirrhosis. He then discussed the relation of these cases to splenic anæmia. In the latter the liver was hypertrophied but there was no increase in the connective tissue.—Dr. H. D. ROLLESTON drew attention to an important observation of Boinet where in one family some members had well-marked hypertrophic biliary cirrhosis with chronic jaundice, while other members had no symptom of that disease but had an enlarged spleen and might be regarded as latent cases of that disease. The cases brought forward by Sir Thomas Barlow and Dr. Shaw appeared to lie between such cases and cases of splenic anæmia, especially as splenic anæmia might terminate in hepatic cirrhosis. There were two forms of splenic anæmia, one occurring in children related to intestinal toxæmia and the other occurring in adults not so related, and the latter terminated in "Batty's disease"—i.e., cirrhosis with recurrent attacks of jaundice. He inquired whether the jaundice referred to might be regarded as due to an exacerbation of toxic processes in the spleen, there being periodic intervals of immunity, or, on the other hand, was the jaundice thought to be mechanical?—Dr. HERBERT S. FRENCH insisted upon the fact that one of the chief features of splenic anæmia was the occurrence of hæmorrhages and this feature was wanting in the cases before the meeting. In reference to the count of leucocytes, which were said to have shown 10 per cent. of small leucocytes, he pointed out that the special characteristic of splenic anæmia was an increase to 30 or even of 40 per cent.—Dr. BATTY SHAW, replying, said that they had been unable to examine the serum of the patient's blood so that they could not say whether urobilin was present in the blood or whether it was true bile. In another case much urobilin was found in the urine, while in the blood only bile was found. He added that some of the counts had given a percentage of nearly 40 per cent.

Dr. W. HALE WHITE and Mr. C. H. GOLDING-BIRD read a paper on the Subsequent History of Three Cases of Colitis in which Right Lumbar Colotomy was performed several years ago and in which the artificial anus was subsequently closed. Two of these (one membranous colitis and one chronic dysentery) were perfectly cured, remaining so after the artificial anus was closed. In the third (one of membranous colitis) complete relief was given, the patient remaining well for 18 months after closure of the wound; she then relapsed and was not now materially benefited. The points to which the authors particularly directed attention were: first, that the operation was in some cases curative, acting by giving rest to the colon; secondly, that the artificial anus should be left open for a considerable time—in their cases one year, one and a half years, and two and a half years were the periods—and they were of opinion that in a severe case 10 years would not be too long; and lastly, reasons were given for always preferring a right lumbar colotomy to a cæcotomy. Irrigation was harmful rather than beneficial.—Dr. PERCY KIDD asked whether irrigations were always found to be harmful in these cases, mentioning that in a recent case irrigations had seemed to do good for a time; injections of nitrate of silver had been tried but had to be abandoned. This patient appeared to be going on quite satisfactorily when hæmorrhage occurred with much pain and in the course of a few days she died quite unexpectedly. No post-mortem examination was allowed.—Mr. A. E. BARKER mentioned the case of an elderly woman who was admitted to hospital with a huge abscess the result of appendicitis. This had been opened very widely by a colleague and she made a good recovery but with a large opening into the cæcum which gave rise to much trouble. He then cut down and anastomosed the lower part of the ileum to the colon. This was followed by great improvement but a very serious leakage persisted which prevented healing. Finally, some months later, he again operated, cutting right through the colon, and she made a good recovery. That case had made him doubt whether the operation of uniting the ileum and the sigmoid flexure would be a success unless the latter were cut clean through.—Dr. SIDNEY COUPLAND asked whether right lumbar colotomy could be performed satisfactorily in the insane, adding that it would be a great boon seeing that colitis was very prevalent in large asylums, accounting for 10 per cent. of the total deaths.—Dr. NORMAN DALTON suggested that it might be well to open the lower part of the ileum rather than the colon in cases of colitis, and he related the case of a man who had had dysentery in South Africa and had undergone colotomy. Six months after the operation he was passing blood and mucus. On examining him they found a large hernia of the posterior wall of the bowel which effectually prevented anything from the ileum passing into the colon. The man was treated by irrigation and got well. Mr. F. F. Burghard then operated for the purpose of closing the wound and found that it was a piece of the ileum that was attached to the abdominal wall, and this enormously facilitated the closure of the bowel. In many of these cases the cæcum was much diseased and after colotomy the fæcal matter would get into the cæcum, whereas with an ileotomy it would not.—Mr. MONIER-WILLIAMS related the case of a man who passed 20 hæmorrhagic stools every day with great emaciation in consequence. The colon was opened on the right side and then he steadily improved. The skin, however, became much excoriated by the liquid fæces and they had great difficulty in controlling the motions. He ultimately got quite well. With regard to irrigations he found that they improved matters greatly.—Mr. GOLDING-BIRD, in reply, admitted that in ulcerative colitis antiseptic irrigations were very useful and indeed indispensable. His remarks on this heading did not relate to membranous colitis. He agreed that a better spur might be obtained from the ileum than from the colon.—Dr. HALE WHITE suggested that if anybody did make the anastomosis of the ileum into the sigmoid they would in many cases not get below the seat of the disease. After Mr. Monier-Williams's experience one might well fight shy of opening the cæcum, the discharge from which was very acrid and irritating.

The annual general meeting was then held. The PRESIDENT referred to the loss which the Clinical Society had sustained in the death of Dr. W. M. Ord who was the type of a great physician, being an enthusiastic physiologist as well as a pathologist. The council's report showed the society to be in a flourishing condition and after the usual votes of thanks the following officers and council were elected for the session of 1902-3:—

President: Mr. F. Howard Marsh. Vice-Presidents: Dr. G. Vivian Poore, Dr. D. B. Lees, Dr. H. A. Lediard, Mr. A. E. Barker, Mr. R. Clement Lucas, and Mr. H. H. Clutton. Treasurer: Dr. Frederick Taylor. Council: Mr. J. Kingston Barton, Dr. J. Mitchell Bruce, Dr. C. W. Chapman, Dr. Lee Dickinson, Dr. S. H. Habershon, Dr. H. P. Hawkins, Dr. F. H. Hawkins, Dr. Percy Kidd, Dr. Hector Mackenzie, Dr. A. F. Voelcker, Mr. Gilbert Barling, Mr. Leonard A. Bidwell, Mr. Walter Edmunds, Mr. J. Hutchinson, jun., Mr. Raymond Johnson, Mr. John D. Malcolm, Mr. H. Betham Robinson, Mr. Charters J. Symonds, Mr. C. S. Wallace, and Mr. F. C. Wallis. Honorary secretaries: Mr. Anthony A. Bowlby and Dr. William Pasteur.

HARVEIAN SOCIETY OF LONDON.

Exhibition of Cases and Specimens.

A CLINICAL evening of this society was held on May 22nd, Mr. WATSON CHEYNE, the President, being in the chair.

The PRESIDENT showed a boy the subject of Congenital Syphilis who had suffered from Necrosis of his Nasal Bones and the bridge of whose nose Mr. Cheyne reproduced by the injection of paraffin having a melting point of 120° F. at the first injection and 104° for the second, after a week's interval, Mr. Cheyne having read of an injection by another surgeon with paraffin having a melting point of 104°. After the two injections the point of the nose, which had been held down during the operation, remained depressed and a presentable organ resulted. The operation was difficult on account of the rapid freezing of the paraffin immediately it touched the tissues. One objection to the parraffin at 104° was that it had a tendency to run into the space between the eyes, above the bridge of the nose. No inflammatory reaction had followed the injection. Greater improvement was possible but the skin was at present stretched to its limit.—Dr. LEONARD HILL thought cosmetic operations such as the present were justifiable, provided there was no risk of complications. He instanced several operations that had been done on the continent in which the paraffin had travelled into other parts subsequently. In one case shown before a meeting of the British Medical Association the results were splendid, but later some of the material escaped into the eyelids and 12 months after the operation the eyes were completely closed by the escaped wax.—The PRESIDENT, in reply, said that his injecting needle went practically down to the remains of the nasal bones. He used an ordinary serum syringe. The great point was to have the hot water quite close to the patient's face so that there was no time for the paraffin to cool. No pain was complained of during the injection.

Dr. A. MORISON showed a boy, aged 11 years, the subject of Early Mitral Constriction showing the triple rhythm. The boy had acute rheumatism two years ago and had had two attacks of chorea. He showed the usual phenomena of an ordinary mitral case. He did not think the triple rhythm could be regarded as diagnostic of the condition. The triple rub could be originated in pericarditic conditions, and under those circumstances the second sound might be spurious. Dr. Morison gave a review of the various theories held—namely by Sansom, Stacey Wilson, and others—and stated that in his view the triple rhythm was very much a matter of rate. If a patient with mitral disease and a triple rhythm was sat up in bed and the pulse-rate thereby quickened the triple character of the beat vanished. When the patient lay down and the pulse-rate slowed there was a quadruplication of sounds. He had verified that by sphygmographic tracings. In mitral cases one could sometimes, by the help of digitalis, produce quadruplication simply by slowing the heart.—Dr. SUTHERLAND thought Dr. Morison's theory plausible but it required carefully thinking out. He would have thought that the irregularity would have been more pronounced when the pulse-rate was increased than when it was slowed. He could only recall one case—that of a woman, aged 60 years, in which there was quadruplication of the heart sounds and in that case he thought the innervation of the heart was at fault. An important diagnostic point in his view was the duplication of the second sound. If Dr. Morison had a case of slightly accentuated first sound and definite reduplication of the second sound, would he be prepared to diagnose mitral stenosis fom those signs alone? His own view was that if those two signs were present the case was very likely one of mitral stenosis. In his experience, also, especially in children, the typical dilatation of the mitral orifice was more likely to be accompanied by irregularity of the heart's action than stenosis.—Dr. MORISON replied.

Mr. JAFFREY read notes of a case of Torsion of the Testicle and showed the specimen. The text-books mentioned that torsion of the testicle most frequently occurred in undescended testes but in the present case the testicle was completely descended. The patient, an errand boy, aged 15 years, came to the hospital with an ordinary hydrocele of the tunica vaginalis. The swelling was of the size of a hen's egg. When riding a bicycle he fell over the handle and struck his hydrocele which caused him much pain. A week later he again fell off his bicycle and struck the same part, causing him extreme pain, which brought him to the hospital. Hæmatocele was diagnosed. On operating Mr. Jaffrey found no hæmatocele, the swelling being more or less due to œdema of the scrotum. The testicle was enlarged, very hard, and black. On careful examination it was found that the testicle, instead of being attached to the posterior wall of the tunica vaginalis, had a mesentery of its own attached at the lower end of the epididymis. It was twisted three half-turns inwards. As it was a useless testicle he removed it.

Dr. E. CAUTLEY showed a specimen of Congenital Hypertrophic Stenosis of the Pylorus. He said that the disease was rare and was but seldom diagnosed during life. Dr. Cautley had seen two cases when he read his paper before the Royal Medical and Chirurgical Society three years ago and collected 18 others. Since then about 50 cases had been recorded. He believed the affection was commoner than was supposed because the present was the fifth which he had had under his own observation. The infant was two months old, the age at which such subjects usually died, and the stomach was decidedly large for that age. The pylorus, instead of being a thin ring, was three-quarters of an inch long and consisted of dense muscular tissue. Before it was laid open it formed a very definite tumour, in shape like the last joint of the little finger. From the stomach side it was funnel-shaped, the funnel being closed largely by a fold of mucous membrane. After death the constriction was so pronounced that only a fine probe could be passed and no fluid could be squeezed from the stomach through the orifice. The infant was apparently born healthy, at full term, and seemed normal. After a period varying from a few days to weeks the child started vomiting, but it was a regurgitant vomit; two or three meals would perhaps be kept down and then a very large quantity would be brought back. The appetite seemed unaffected. The tongue was clean and might remain so throughout the whole illness. The breath was not sour. Constipation was often, but not invariably, present and was often noticed at birth. Occasionally there was diarrhœa. No bile was found in the vomit. Towards the last such infants got very marasmic and died practically from starvation.—Dr. SUTHERLAND, Dr. MORISON, and the PRESIDENT discussed the specimen.—Dr. CAUTLEY replied.

MEDICO-PSYCHOLOGICAL ASSOCIATION OF GREAT BRITAIN AND IRELAND.

Sleep in relation to Narcotics in the Treatment of Mental Diseases.—Surgical Treatment of Delusional Insanity.

AN ordinary general meeting of this society was held on May 21st, Dr. OSCAR T. WOODS being in the chair.

Dr. HENRY RAYNER read a paper entitled "Sleep in relation to Narcotics in the Treatment of Mental Diseases." He pointed out the importance of the subject at the present time, when so many narcotics were being introduced and supplied to the public with little check or control. He expressed the opinion that a considerable portion of the nervous and mental disorders of the well-to-do classes was due to the abuse of those drugs. He alluded to the various theories of sleep and adduced arguments indicating the large share which the body took in the production of sleep. Contrasting sleep and narcotic stupor, he described the psychic state in the former as one of unconsciousness without loss of sensibility and the latter as unconsciousness with insensibility. Dr. Rayner said that the general physiological state in sleep was one of increased rather than decreased nutritional activity, while in narcotic conditions secretion, excretion, and general nutritional repair were greatly

interfered with. The vaso-motor, respiratory, circulatory, and other centres were depressed. The reparative effects of sleep on the brain cells, as described by Hodge and others, was contrasted with the evidences of disordered nutrition found by Hamilton Wright, especially in the brain-cells of narcotised animals, corresponding to the psychic cells in man. The defects in insomnia, however caused, were summed up as consisting in defective nutrition of the brain cells, variously associated with toxic conditions of the blood, with anæmia and hyperæmia of the brain and irritation of it, either from the body or from the environment. The question was asked whether narcotics could be shown to be curative of these states of disorder, or whether benefit could be expected from their use, except in states of physical or mental pain from irremoveable conditions in the environment. Dr. Rayner arrived at the conclusion that in narcotic doses any good resulting from their use must be in spite of the disorder of nutrition to which they gave rise, and if given to produce sleep that object could be more satisfactorily attained by other remedial agencies, which helped at the same time to restore the associated vascular and nutritional conditions. He believed the occasions for the use of narcotics were very few, and stated that for many years he had rarely had occasion to use them. He hoped in a future paper to discuss the methods of treatment by which he had been able to obviate the use of narcotics.—Dr. G. F. BLANDFORD said it was evident that Dr. Rayner had a great prejudice against sedatives and narcotics of all kinds, but that was not his own view. He had been treating patients for 40 years, many of whom had come to him in a state threatening insanity, in which insomnia was a very marked feature; and he felt as certain as he could of anything that a great number of those patients had been materially benefited by the use of medicines given to induce sleep. Of course, such medicines could be abused and could be given until that state of insensibility had been produced to which Dr. Rayner referred. But doses could be given which would have a thoroughly therapeutic effect and produce a state which was indistinguishable from natural sleep. But it was necessary to select the drug suitable to the particular case. He was convinced that among the general body of the profession far too large doses of sedatives were given and that they were continued for too long a time. With so many drugs available chloral was now much less used than formerly. One of the best and safest was paraldehyde. At one time the only drug available for acute mania was morphia, which did not send the patient to sleep, and if it were pressed death resulted from opium-poisoning, especially since the introduction of hypodermic injection. There was the class of case where there was no danger of death from want of sleep and in which the giving of narcotics night after night prolonged the case. In such cases it was better to give no drug at all.—Dr. G. H. SAVAGE said that the symptom which more than any other he was consulted about was sleeplessness. Of course, if sleep could be obtained by natural means so much the better, but the cause of the sleeplessness must first of all be ascertained. One heard much about anæmia of the brain but in many cases he was certain that a nightcap of grog and a little food were more likely to produce sleep than sedatives of the opium type. He agreed that there were cases in which hydro-therapy was of the utmost use—namely, those already loaded with toxic agents, those who had taken too much alcohol, or who were gouty. For such patients a dose of calomel followed by saline waters and baths would be of great value in inducing sleep and curing the patient. It was a working axiom with him that in painful conditions opiates and narcotics assisted in procuring sleep, especially in cases with mental pain. Though opium generally upset the digestion the rest it procured was the means of the digestion being improved. He had seen extremely mischievous patients narcotised into dementia and on recovery from that get perfectly well. A morphinomaniac could be given an ounce of bromide per day for several days and be found to have recovered at the end of that time. One could say much the same of narcotics as of restraint. In years gone by his character was taken away because he declined to bow to the worship of non-restraint. It had been said of narcotics that they produced simply a form of laziness—that the alienist thereby made a desert of the mind and called it peace. He agreed with Dr. Blandford that in many cases narcotics were of the greatest benefit in warding off threatened attacks of insanity.—Dr. FLETCHER BEACH said that his work lay more in nervous diseases than in actual insanity. In many cases of neurasthenia and brain fag, unless sleep could be procured very little could be done in the way of treatment. He practically always used sulphonal for the purpose and he had not been able to find any evidences of emaciation or any kind of indigestion likely to lead to emaciation. On the contrary, he believed it to be instrumental in keeping up the weight of the patient. He thought that it was wrong to give narcotics continually for weeks. He thought it important for all the bodily functions to be made active. In a case of hysterical mania he tried the effect of hyoscine injections, beginning with one-two-hundredth grain and working up to one-seventieth, and in three weeks the patient was cured.—Dr. T. B. HYSLOP said that it was important to know what normal sleep was, not from the physiological or pathological points of view, but from the clinical. He referred to the investigations of Russian and German authorities and the charts they had constructed, and spoke of the importance of distinguishing between restful sleep and that produced through the agency of narcotics. He had always been a little doubtful about the experiments of Hodge and the effects of fatigue upon the nerve cell of small animals. He thought that the effect of an electric current upon such a cell would be commensurate with the effect of lightning upon an ordinary person; and the amount of previous preparation of the cells was enough to make one sceptical about the results. He defended the practice of physical restraint. The great point, which he had verified by experiment, was that if one cut off the physical expression of emotions one also cut off the emotions themselves. The questions of food and the free action of the skin were important.—Dr. T. CLAYE SHAW thought the discussion had taken an experiential form, whereas he had hoped to have heard more scientific facts about sleep. Very little was known about either sleep or narcotics. Sleep was either a nervous or a vascular condition; and where insomnia was connected with the vascular state it was probably unwise to treat it by narcotics. He suggested that in many cases of insanity the highest functions were inactive, that those parts of the brain were really at rest. In such cases was it not wise to abstain from poisoning the cerebral cortex with narcotics?—Dr. R. PERCY SMITH referred to those violent cases which required to be dealt with at once in the patient's own home, of which he gave an instance. He thought Dr. Rayner would agree that in such a case a sedative was required. With regard to sulphonal, at Bethlem Hospital he had found it to give rise in some cases to indigestion and hæmatoporphyrinuria. Some patients could not sleep at nights and he thought that they should be allowed to sleep when they felt inclined. General practitioners as a body did not yet realise that other drugs would produce sleep without the very bad effects of morphia. It was undesirable to continue narcotics without giving the patient a chance to do without them.—Dr. ERNEST W. WHITE spoke of the importance of a regular round of events in asylum life as a factor in producing quiet nights. He believed that there were many forms of melancholia in which morphia was the sheet-anchor. In acute mania he had given up the exhibition of bromide and chloral for many years; the cases were taken for an hour or two's exercise and they gradually fell into line with the other patients and got to sleep without drugs.—Dr. J. S. BOLTON said that he had had considerable clinical and pathological experience of sulphonal. Pathologically for every case of hæmatoporphyrinuria he had seen 10 of hæmatoporphyrinæmia. The prolonged use of sulphonal was most pernicious from the point of view of auto-intoxication. Clinically the drug was most valuable in early cases of insanity, but in ordinary acute insanity with extreme restlessness and sleeplessness sulphonal, even in moderate doses, was injurious.—Dr. L. A. WEATHERLY spoke of the value of continually renewed air in the induction of sleep as seen in sanatoriums.—Dr. W. JULIUS MICKLE thought that the chief necessity was that narcotics should be given with brains—i.e., that the medical man should make a careful estimate of each particular case before giving any drug. In most cases he would find that the patient did not require a narcotic at all.—Dr. WOODS thought that there were three stages or periods which required to be taken into consideration: (1) that before the onset of actual insanity; (2) acute insanity; and (3) chronic insanity. In the first class the judicious employment of sedatives would do a great deal of good. In many cases the dose given was much too large. In cases of insanity with a great deal of motor excitement in which exhaustion rapidly ensued it was necessary to produce sleep

by means of sedatives but they should not be continued too long. He laid great stress upon diet and hygienic measures in the third class and feared that sedatives were administered much too freely.—Dr. RAYNER briefly replied. He said that if the injunction to use one's brains were obeyed the practitioner would rarely wish to use a narcotic. The necessity to give a narcotic to avoid alarming the household was quite apart from its curative merits. He agreed with the use of narcotics in cases of bodily pain. In all cases one should try to get rid of the cause of the sleeplessness. Altogether the speakers seemed to be in fair agreement with him.

Dr. T. CLAYE SHAW read a paper entitled, "The Surgical Treatment of Delusional Insanity, based upon its Physiological Study." He said that it was often necessary to argue from effect to cause on account of want of knowledge of the details of the machinery. He proceeded to argue as to what might be supposed to be the physical conditions of a psychic content and from this to draw conclusions as to the probability of there existing a system of "local signature" in the brain in completion of Kulke's theory of specific qualitative colouring. The difficulties under which they at present laboured in treating directly localised lesions in the brain were referred to, and it was suggested that attempts should always be made to trace in which centres they for the most part arose. The importance of localisation was insisted upon and it was argued that if this could be perfected the proper plan was to deal with the disorder surgically, so as to have immediate access to the seat of disturbance—a method attended by little danger and likely to afford valuable results as to progress and ultimate cure.—Dr. HYSLOP referred to his investigations on the same subject and thought that the time was far distant when surgery could be employed with success in the class of cases referred to.—Mr. C. B. LOCKWOOD said the patients he had operated upon for Dr. Claye Shaw were, in his opinion, proper subjects, and where there was a chance of relieving patients from intense pain by surgery it should be done. He gave details of some very successful cases so treated.—Dr. CLAYE SHAW briefly replied.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

SECTION OF SURGERY.

Intestinal Resection.—Perforated Gastric Ulcer.—Exhibition of Cases and a Specimen.

A MEETING of this section was held on May 9th, Mr. THOMAS MYLES, the President, being in the chair.

Mr. R. LANE JOYNT read a paper on a Successful Case of Double Resection of the Intestine for Injury. The patient was a youth, aged 16 years, who had been struck in the abdomen by the shaft of a van. He was taken to the Meath Hospital, Dublin, and laparotomy was performed. A portion of the jejunum was found to be torn from its mesentery. The bowel above was severed from the last portion of the duodenum. The rents in the mesentery extended deeply to its roots. The injured bowel, 22 inches in length, was removed, and end-to-end anastomosis was effected by a Murphy's button. The transverse mesocolon was also torn through and only a tube of intestinal mucous membrane over one inch in length stripped of its peritoneal and muscular coats was left connecting the colon. This was excised and a second end-to-end anastomosis was effected with sutures by Cheatle's method. The button was passed on the seventeenth day and recovery was perfect; no disturbance of nutrition had followed. Surgeons were at some disadvantage from want of practice in suturing bowels. The difficulty was to get bowels to suture, for the intestines in the cadaver were so wholly unlike those in the living subject that they were of no use for the purpose. He intended to try the suturing on the carcasses of pigs. The Cheatle suture he found easy to use and capable of being rapidly executed. It had the great advantage that in its application the bowel was not mauled.—The PRESIDENT said that he agreed with Mr. Joynt as to the inadvisability of using a Murphy's button in the operation on the large bowel, especially as one had been used to connect the surgical wound surfaces in the small bowel. The Murphy's button, being liberated earlier in the small intestine, would very probably occlude the Murphy's button in the colon. Suturing the bowel had the great advantage of being free from the risk of occlusion; the surgeon was not kept for 17 or 18 days in a state of anxiety waiting for the passing of the button, and with a little practice the bowel could be sutured almost as quickly as the button could be fixed in position. He was much impressed with the fact that the boy was kept for some days without food. Abdominal operations had taught surgeons that food might be safely withheld from patients for some days. In this case delirium supervened but was quickly subdued by the giving of some nourishment.—Mr. L. H. ORMSBY said that when he came to assist Mr. Joynt the case looked hopeless. The operation took two hours to perform. He saw the boy a few days since and found him looking strong and well.—Mr. J. P. DOYLE, Mr. A. J. MCA. BLANEY, Mr. JOHN LENTAIGNE, and Dr. A. R. PARSONS also discussed the case.

Mr. BLANEY read a paper on two cases of Perforated Gastric Ulcer. The first patient, a female, aged 24 years, was operated on 21 hours after the occurrence of perforation. The aperture, situated on the anterior surface near the pylorus, was readily found and sutured. The abdomen was flushed out and was closed without drainage. The patient did well for the first six days' but her temperature then rose and eventually she died from general peritonitis due to the bursting of a localised abscess into the general peritoneal cavity. The second patient, a female, aged 21 years, was operated on 19 hours after the perforation took place. The ulcer was found on the anterior surface near the cardiac end and lesser curvature. There was a great amount of surrounding induration, rendering the application of sutures very difficult. On the eighth day a slight rise of temperature took place; the fever continued, and on the eleventh day the wound was reopened and a large perisplenic abscess was disclosed. This was drained through the ninth intercostal space, a portion of the anterior wound being packed with gauze. The temperature did not subside for a considerable time. Eventually both wounds healed and all stomach symptoms disappeared, but another abscess formed under the scar and it was opened more than two months after the original operation. The patient took raisin tea as it was desirable to avoid the use of proteids in such cases. She was now quite well.

Mr. D. KENNEDY exhibited (1) a case of Excision of the Shoulder for Necrosis of the Humerus and (2) a case of Congenital Dislocation (Sub-spinous) of both Shoulder-joints, with skiagram.

Mr. LENTAIGNE exhibited a case of Tuberculous Disease of the Ankle-joint, with extensive Disease of the Tibia, Astragalus and Os Calcis, cured by raclage. The patient had been already exhibited on March 30th, 1900, and was again exhibited by special request.

Mr. W. TAYLOR exhibited a Prostate removed by the suprapubic method.

SOCIETY FOR THE STUDY OF DISEASE IN CHILDREN.—A meeting of this society was held on May 16th, Dr. W. A. Wills being in the chair.—Dr. James Taylor showed (1) a case of Paroxysmal Hæmoglobinuria in a child who had suffered from Syphilitic Ulceration of the Palate; and (2) a case of Raynaud's Disease in a boy who had lost the Terminal Phalanges of several Fingers and in whose urine oxalates were present in abundance.—Mr. Herbert L. Carre-Smith showed a case of Sporadic Cretinism that had been under treatment for four years with thyroid extract. The mental and physical condition had greatly improved, but a relapse was experienced as soon as the treatment was omitted.—Mr. A. Bruce Roxburgh showed a child with a fatty growth occupying the left side of the perineum and scrotum. The testicle lay in the perineum and a hydrocele of the tunica vaginalis was present. The enlargement was noticed a few months after birth.—Dr. J. Porter Parkinson showed two instances in the same family of a curious congenital depression of the frontal and parietal bones on one side of the cranium. The children, aged respectively 11 months and two years and a quarter, seemed to be intelligent and had never suffered from fits. There were no other evidences of maldevelopment.—Mr. E. W. Clapham alluded to a similar case shown by him before the Clinical Society of London last year.—Mr. Sydney Stephenson showed a case of Keratomalacia in an emaciated infant of the age of seven months who was suffering from tuberculosis, probably of the disseminated variety. The disease already had led to complete destruction of one eye. In the remaining eye the corneal ulceration had healed with

the production of a nebula. There had been no ophthalmia neonatorum. The symptoms did not begin until the third month and were those of keratitis and not of conjunctivitis. The latter, indeed, had been absent throughout the case. Clinically, at all events, the gonococcus could therefore be put aside.—Mr. Walter Edmunds exhibited a girl, 11 years of age, suffering from Subluxation of the Left Shoulder-joint. This he regarded as one of the after-effects of epiphysitis with which she was affected as a baby. The arm could be freely moved in any direction except upwards.—Mr. R. Clement Lucas alluded to a somewhat similar case that had been under his care.—Mr. Clapham mentioned another case of the same kind seen in a healthy man who was examined for life assurance.—Mr. H. Betham Robinson showed an example of Springel's Deformity of one shoulder in a girl, 11 years of age. It had been noticed for two months only.—Dr. Travers R. M. Smith alluded to a case shown last year by him at the Polyclinic. Springel's theory was that in utero the arm got behind the back and the shoulder was raised, thus bringing about the deformity.—Dr. James H. Sequeira exhibited a large Sarcomatous Tumour of the Left Supra-renal Body from a girl, aged 11 years, who exhibited the phenomena of "precocious puberty." She had menstruated for 15 months, the mammæ were very large, and there was a large growth of hair on the pubes, the chin, and the lip. Secondary deposits were present in the lungs and in the liver.—Mr. Lucas, Dr. F. Parkes Weber, Mr. Robinson, Dr. George Carpenter, and the Chairman discussed the specimen.—Dr. Parkinson showed an Organised Intra-cardiac Thrombus obtained from a boy, aged eight years.—Dr. Douglas Drew exhibited a specimen and sections of an Adeno-myxo-sarcoma of the Testis taken from an Infant.—Dr. C. O. Hawthorne read a note on a case of Arthritis accompanying Ophthalmia Neonatorum which is published at p. 1529 of our present issue.—Mr. Lucas said that it was pleasant to know that a clinical observation made almost in the pre-bacteriological days had been so amply confirmed. His first case was so acute that it appeared as if the joint must suppurate, but as a matter of fact it did not. The peculiarities of the affection were the tendency to recovery without suppuration and the association of suppuration in the conjunctiva.—Mr. Sydney Stephenson remarked that it was a pity that gonococci had not been demonstrated in the eye-discharges from Dr. Hawthorne's patient, but the other circumstances of the case rendered the existence of gonorrhœa quite conclusive. He had personally seen five instances of what might be termed "Lucas's joint disease," and of those cases four of the patients made perfect recoveries under simple treatment. In the fifth case the joint was aspirated and ultimately it became ankylosed.—Dr. Hawthorne, in reply, admitted that the discharge from the eye ought to have been examined for gonococci, but there could be no reasonable doubt as to the diagnosis.

ÆSCULAPIAN SOCIETY.—A meeting of this society was held on May 23rd, Dr. Arthur T. Davies, the President, being in the chair.—The President showed: 1. A woman, aged 35 years, with visible Pulsation under the Left Clavicle, with tenderness of the skin over that area. There was a loud systolic noise over the whole chest anteriorly, the loudest being at about the left third costal cartilage. The radial pulses were equal. By the x rays a pulsating mass was seen but with what connected could not be determined. 2. Two men with marked Emphysema of the Lungs who were benefited by wearing Dr. Ewart's emphysema jacket. 3. A specimen of Mitral Stenosis with associated Tricuspid Dilatation from a woman, aged 34 years, who died suddenly. 4. A Tuberculous Ulceration of the Epiglottis from a man, aged 26 years.—The President introduced a discussion on Chronic Bronchitis. He advocated the use of the inhalation of a 2 per cent. atomised solution of potassium iodide or similarly ipecacuanha wine. The syrupus picis compositus, U.S.P., with the syrupus pruni virginianis was chosen, though if fœtid sputa were present the exposure to the fumes of crude creasote in the manner of Dr. T. H. Arnold Chaplin was most useful. The old remedy to relieve the right heart, venesection, might be, at least to some extent, displaced by tartar emetic. For children emetics were undoubtedly very useful. Oxygen, though perhaps not curative, at least induced euthanasia. Climatic treatment was sketched and special praise was given to the Canary Isles, where a variety of climate could be found by going up the mountains.—A general discussion followed.

Reviews and Notices of Books.

On Disorders of Assimilation, Digestion, &c. By Sir LAUDER BRUNTON. London: Macmillan and Co., Limited. 1901. Pp. 495. Price 10*s.* 6*d.*

THIS book consists of a series of papers on miscellaneous subjects bearing more or less on the question of assimilation and digestion. Most of these papers have been read before learned societies or published in medical journals. In a certain sense this work is a continuation of the author's well-known book on the "Disorders of Digestion," published some few years ago, although in order to avoid confusion between the two books the volume under review has been given an independent and distinguishing title. Comparing this supplementary volume with "Disorders of Digestion" we are forced to the conclusion that the author has not kept his best work for this later publication, and although an apology is offered in the preface for frequent repetition we cannot help thinking that readers who are at all familiar with Sir Lauder Brunton's writings will come to the conclusion that they are justly entitled to an apology of this kind. Two main ideas seem to run through the majority of these essays, one of them is the great importance of rational organo-therapy and the second one has reference to a theory which the author hazarded many years ago when he was working under the direction of Professor W. Kühne—namely, that carbohydrate combustion in the animal system is largely dependent on the presence of a glycolytic ferment in muscular tissues. The influence of enzymes in the physiological processes of the body is undoubtedly great and the more recent discoveries of oxydase and lipase ferments add considerably to their importance, but the underlying and fundamental operations of protoplasm itself and of the nervous system which controls them deserve the equal consideration of any author who discusses the pathology of such diseases as diabetes or the vagaries of an incompetent liver. Nearly one quarter of the book is occupied by a reprint from "The Book of Health" and refers to the influence of stimulants and narcotics on the human organisation. Written in a popular form and bearing a date of nearly 20 years ago, it contributes little to our scientific knowledge of this important subject, and, further, it does not make mention of the more recent and extremely interesting researches on the subject of toxic bodies contained in alcohol which the author himself has carried out. The hereditary effects of alcohol and its relationship to crime, lunacy, and pauperism are now such familiar topics that it is a debateable question whether even Society would learn much that it did not know before by reading this reprint from "The Book of Health." A paper on Bile, Biliousness, and Gall-stones, which was originally read before the North-West London Clinical Society, constitutes one of the most interesting essays of this series. Although subsequently printed in the *Clinical Journal* for January, 1900, it has perhaps not been very extensively read. In this paper appears the curious statement that freshly formed bile is not bitter and that in all probability it only becomes so from absorption of bitter substances formed during digestion. According to the view held by the author it is this bitterness of bile which causes "biliousness." This somewhat expansile term has a more definite meaning to Sir Lauder Brunton than it probably conveys to the mind of most pathologists. Great stress is laid upon the stagnation of bile in the liver as a cause of biliousness and gall-stones, and the want of exercise which mechanically accelerates the flow is held chiefly responsible for the determination of these conditions. Although this explanation has the

charm of simplicity it does not explain the association of east winds with so-called biliousness. Nor does it supply a satisfactory explanation of the biliousness of nervous origin or of that connected with railway travelling. Any solution of this problem which does not recognise as pathogenic factors hepatic inadequacy from overwork and nerve exhaustion or hyper-stimulation must necessarily be incomplete if not unsound. The value of flushing out the system with copious draughts of hot water as a prophylactic measure against bile stones and biliary colic will be generally endorsed whether Sir Lauder Brunton's explanation of the *modus operandi* is accepted or rejected. On the subject of constipation and diarrhœa, many useful suggestions are contained in more than one article. Soft food, the consequence of later-day civilisation, is considered to be the principal factor in the etiology of constipation. From the point of view of the general practitioner the volume has many features to recommend it. It is pleasantly written and contains, if we may employ the expression, a large number of useful "tips" in treatment. It is the narrow conception of disease processes and the want of the application of general principles to the particular phases of physiology and pathology which will probably deprive the volume of the enduring appreciation of posterity.

Atlas und Grundriss der Histologie und Mikroskopischen Anatomie des Menschen. (Atlas and Elements of Human Histology and Microscopical Anatomy.) By Dr. J. SOBOTTA. Munich: J. F. Lehmann. 1902. Pp. 247, with 80 coloured plates and 68 illustrations in the text. Price 20 marks.

THIS compact volume, which belongs to a series devoted to the subjects required to be studied by the candidate for medical degrees in Germany, is one of the very best books upon histology which we have seen. It possesses so many merits that we cannot but express this strongly favourable opinion. The text is subsidiary to the illustrations, which is an advantage to those whose business it is to learn the ascertained facts without reference to disputed opinions and to debateable points. The illustrations, with a few necessary exceptions to which we shall revert later, are actual copies of sections which as a rule have been prepared with a view to the present handbook. Being actual copies the author has taken care that they reproduce exactly the very tints used in staining the tissues of which they are representations. Various methods of staining are reproduced in the beautiful plates with absolute fidelity, and to anyone with the slightest experience of microscopical preparations are convincing as representations of actual fact. There is nowhere the slightest trace of any "faking" such as is apt to be seen in drawings of a similar character. Indeed, this pitch of excellence may possibly, in the opinion of some, have been carried a little too far. It is difficult to understand fully the figures of the spleen and of the lymphatic glands. A little judicious explanation in the way of more diagrammatic figures might in these two cases have been of some assistance. With so much that is excellent it is difficult to pick out any one plate or series of plates for especial praise. Among those figures which have struck us as being of particular merit are the drawings of the ovary and the ovarian ovum. The early condition of the corpus luteum is represented with minute fidelity; but perhaps a more highly magnified drawing of the ovum might have been given to illustrate the fact that the neighbouring cells of the follicle do apparently take a share in the nutrition of the ovum in mammals as the corresponding cells unquestionably do in lower vertebrates. The large "glandular" cells of the follicle in the Elasmobranch fishes are, of course, well known. Now Dr. Heape has shown that in the ovum of the mole there are similar prolongations of the follicular cells through the pores of the egg membrane. But in all probability this has not been demonstrated in the case of man, and after all the book is a text-book of human, and not of mammalian, histology.

Nor does the author figure or mention the cell which Professor Schäfer discovered to lie within the ovum, a cell apparently derived from the surrounding follicular layers and corresponding possibly with the cells which penetrate the ovum in the Ascidians. But we may have overlooked some recent proof that these cells are really cells which enter the decaying ovum, as is the case in the eggs of some other and lower vertebrates, during the retrogression of ova that have been ripened but not extruded. It is a little remarkable that Dr. Sobotta does not figure an adult spermatozoon though he gives several figures illustrating the structure of the testis. The illustrations given of the kidney (Fig. 2 on Plate 49 as well as a diagrammatic and explanatory figure) are much to the point in emphasising the probable correctness of the current view that the cavity in which the glomerulus projects is not a part of the kidney tube at all but a segregated part of the body cavity. Dr. Sobotta's drawing shows that the epithelium of this capsule is thin and of a "pavement" character, while the uriniferous tubule begins sharply with columnar epithelium; the columnar region is, of course, at the commencement the equivalent of the funnel of a nephridium in many animals, though it is not ciliated, or perhaps we ought to say, in view of a recent change of opinion, not of a nephridium but of a "cœlomo-duct." It is generally to be inferred from the descriptions of the minute structure of the liver given in many text-books, even if the statement is not actually made, that that alimentary gland is *sui generis* and unlike the other glandular outgrowths of the alimentary canal. This erroneous mode of regarding that organ will be dispelled by a comparison of Fig. 2 on page 22 with Plate 46, Fig. 2. It is rather a pity that the two drawings were not put as nearly side by side as possible. For it is apparent from a glance at both of them that the ductules of the pancreas give off branches running into the actual interior of the pancreas cells just as they have been long known to do in the liver. It happens that in the latter organ these minute ductules form a network, while they do not in the case of the pancreas. But the actual fact of penetration of the cells by microscopic branches of the ultimate ductules occurs in both organs. The study of this fascinating little volume has positively made us long for our remote student days. We can indeed say that in those days there was nothing of such artistic excellence and clearness of explanation to entice the learner into the ways of histology. We distinctly advise every intending student of this branch of anatomy to possess himself of this trustworthy and alluring guide to the mysteries of cell structure.

Plant Relations: a First Book of Botany. Second Edition, revised. Pp. vii.-266. *Plant Structures: a Second Book of Botany.* Pp. vii.-348. Both by JOHN M. COULTER, A.M., Ph.D., Head Professor of Botany, University of Chicago. London: Hirschfeld Brothers. 1902. Price 6s. net.

THE first of the above-mentioned books chiefly deals with the ecological relations of plants, or, to use the author's own words, "is dominated by ecology and also contains certain fundamentals of physiology that are naturally suggested." The work does not profess to form a course complete in itself but rather "is intended to serve as a supplement to three far more important factors: (1) the *teacher*, who must amplify and suggest at every point; (2) the *laboratory*, which must bring the pupil face to face with plants and their structures; (3) *field-work*, which must relate the facts observed in the laboratory to their actual place in nature and must bring new facts to notice which can be observed nowhere else" (Preface). Provided these three

points are borne in mind by those who use it, the book will not fail to prove of great value and assistance in the study of this most interesting branch of botany. That there is need for such a work there can be no doubt. Unfortunately here in England ecology is very much neglected both by investigators and by teachers. This lack of research is the more to be regretted since much could be done by many who for various reasons are unable to work on the same lines of investigation which are more generally followed by many botanists. The volume is illustrated by over 200 figures, a number of which have been obtained from Kerner's "Natural History of Plants" and Schimper's "Pflanzengeographie," now being translated, we understand, for the use of English students.

The second book—Plant Structures—deals essentially with the morphology of the main groups of the vegetable kingdom. The ground covered may appear to be too wide for the elementary reader, but it must be remembered that it is not intended by the author that the whole of the contents should be used for laboratory exercises, but to form a means of coördination and "to develop some philosophical conception of the plant kingdom." Although the work is quite good on the whole there are a few points to which exception must be taken.

In Chapter 12 the Fertilisation of Angiosperms is described. The process outlined is that which was taught up to 1899—that is to say, no mention is made of the important discoveries of Nawaschin, Guignard, and other observers on the "double-fertilisation" of certain flowering plants, both Monocotyledons and Dicotyledons. Hence we find that the endosperm is compared to, and said to be homologous with, the prothallus of Gymnosperms. This theory, though still held by some, is not by any means considered to be true by all. Again, on p. 291 it is stated that "the large club-mosses and *Isoetes* usually have an apical group of meristem cells, as among the seed plants." As regards *Isoetes* there is some evidence which points to the fact that the stem-apex may grow by means of a single apical cell, as Hofmeister supposed 50 years ago. While dealing with *Isoetes* attention also may be drawn to another statement which might be improved upon. We find that on p. 292 it is stated that in the plant in question "the vascular bundles may be said to be collateral." It is only fair to point out, however, that some of the above points objected to may be due to the fact that although the volume is dated 1902, it does not appear to have been revised since the time of its first publication in 1899. The work is illustrated by 289 excellent figures and will doubtless prove of much use.

A Text-book of Medical Jurisprudence, Toxicology, and Public Health. By JOHN GLAISTER, M.D. Glasg., D.P.H. Camb., F.R.S. Edin., Professor of Forensic Medicine and Public Health in the University of Glasgow, &c. With 238 illustrations. Edinburgh: E. and S. Livingstone. 1902. Pp. 820. Price 15s.

IN this work the plan has been adopted of combining in a single text-book the subjects of medical jurisprudence, toxicology, and public health. We consider this method a good one both for practitioners and students. All three subjects imply relationships subsisting between the medical man and the State and at most of the qualifying examining boards the subjects are now conjoined for examining purposes. Dr. Glaister modestly remarks that on none of the subjects does the volume pretend to be exhaustive. He has, however, produced an excellent manual, fully carrying out all that is claimed for it—that is to say, that in its pages will be found a consideration of the most important problems in each of the departments of which it treats.

The experience gained by the author in the field of medico-legal work and practice and in the teaching of the subjects comprised in the book for many years has convinced him that the kind of book most needed by practitioners and students alike is one which combines the exposition of principles with practical details. On this point we entirely agree with him. Unless interspersed with illustrative cases a text-book on forensic medicine is found to be somewhat uninteresting reading. If, however, certain cases are selected and are then compared with theoretical considerations valuable lessons are acquired. Not only will the student more readily grasp the principles of the science, but he will gain an insight into the manner in which medico-legal cases should be conducted and will be warned against the many pitfalls into which an inexperienced medical witness or officer of health may fall.

The book is divided into three sections. Section I. deals with Medical Jurisprudence. The earlier chapters describe legal criminal procedure in England, Scotland, and Ireland and the methods which should be adopted by the expert witness when giving evidence in court. The vexed question of professional secrecy is ably discussed. It is interesting to note that medical men in certain parts of the world are in different positions in this matter. In England a medical witness must disclose, when a judge so rules, any secret information of which he may be possessor by virtue of his professional relationship to a party in the case. In New Zealand, on the other hand, all communications made to a physician or surgeon in his professional character by any of his patients are held to be privileged and are not admissible in evidence in any civil or criminal proceedings, except with the express consent of the person who is alleged to have made such communication; a similar rule prevails in certain American States.

The chapter on Personal Identity is also well arranged. Full accounts are given of the methods employed in the identification of prisoners by the Bertillon system and by the finger-print systems of Galton and Henry. The chapter on the Medico-legal Forms of Death—namely, drowning, suffocation, hanging, strangulation, and throttling—contains a full account of the appearances which may be present in such circumstances, together with the deductions which may be drawn from them. Other chapters deal with Death by Lightning and Electricity, Death by Cold and Exposure, Wounds in their Medico-legal Bearings, and the Examination of Blood-stains. The medico-legal relations of the sexual functions, rape, and infanticide are also duly discussed.

A useful and instructive chapter is one on the Differential Diagnosis of States of Insensibility, a subject which frequently comes under the notice of the resident medical officers of the general hospitals and which occasionally presents problems of the greatest difficulty. The chief points are described upon which an opinion may be formed, but the main object of the chapter is to warn the young practitioner against coming to a too hasty conclusion. The instruction given to house surgeons and house physicians never to send away an unconscious patient is a good and sound one and should never be departed from.

Section II. is concerned with Toxicology and an account is given of the symptoms, mode of detection, and treatment in cases of poisoning by organic and inorganic substances. The directions given for chemical analysis are unusually full and complete.

Section III. is headed "Public Health." The high standard of description and reasoning exhibited in the previous parts of the book is fully maintained in this section. The chapter on Air and Ventilation is particularly worthy of attention and the principal appliances which are adopted for the ventilation of closed spaces, large and small, are described in detail. Especial attention is paid to the mode of testing practically schemes of ventilation, and the information thus

given should prove of considerable value to medical officers of health and to those practitioners who are charged with the supervision of workshops and factories. The subject of house drainage is likewise dealt with at length, as are also those of sewage disposal and methods of sewage destruction.

Some interesting chapters are added which are not always to be found in a text-book of this nature. Chapter 9 is headed "Preventable Diseases." Brief accounts are given of the mode of spread of the infectious diseases, particular attention being drawn to yellow fever, plague, and malaria. Then follow chapters on Methods of Prevention of Infectious Diseases and Modes of Disinfection of Individuals, Clothing, and Rooms. The sanitary law relating to infective diseases is also explained. Chapter 13 is concerned with the Construction and Requirements of Isolation Hospitals and the final chapter deals with the Effects of Occupation on Health and the Duties of Medical Practitioners regarding Industrial Poisoning.

Taking this work as a whole we can unhesitatingly pronounce it to be one of the best text-books dealing with medical jurisprudence, toxicology, and public health which we have met with. It is well written throughout, the information contained in it is full and accurate without being redundant, and the illustrations are appropriate and well executed. We can cordially recommend it to medical practitioners and students and also to members of the legal profession who will find therein a useful guide in a class of cases which are often perplexing to the legal mind.

LIBRARY TABLE.

Contributions from the William Pepper Laboratory of Clinical Medicine, University of Pennsylvania. No. 2. Philadelphia. 1901.—This volume is made up of reprints of a number of papers by various observers. Dr. W. G. Spiller is responsible for seven articles on subjects connected with diseases of the nervous system, including the following: "The Pathological Changes in the Neurone in Nervous Diseases," "A Case with the Symptoms of Cerebro-spinal Meningitis, with Intense and Cerebral Alteration of the Nerve-cell Bodies, but with little evidence of Inflammation;" and (in conjunction with Dr. W. E. Robertson and Dr. W. S. Wadsworth) "Cerebellar Lesions without Cerebellar Symptoms." An interesting communication is that by Dr. A. Stengel and Dr. C. Y. White on "The Blood in Infancy and Childhood." Another paper well worthy of notice is by Dr. C. Y. White and Dr. William Pepper on "Granular Degeneration of the Erythrocyte." The observers studied more especially the granular degeneration found in the erythrocytes of lead workers and were able to demonstrate the granules very early in cases under the influence of lead salts before subjective or other objective symptoms could be detected. Dr. White and Dr. Pepper believe these granules to be a true degeneration of the erythrocyte and to have no relation to nuclear fragmentation or to polychromatophilia.

De la Conjunctivite Granuleuse. Par le Dr. Z. HOURMOUZIADÈS, Aide de Clinique Ophtalmologique à l'Hospice National des Quinze-Vingts. Avec préface par le Dr. A. TROUSSEAU. Paris: Société d'Éditions Scientifiques. 1902. Pp. 190. Prix 4 francs.—The conjunctiva is the most extensive, the most superficial, and the most easily examined of the membranes of the eye. Yet the diseases to which it is liable from its exposed position are so diverse that with all the aid that the microscope can afford there is by no means complete uniformity of opinion in regard to the etiology, diagnosis, symptomatology, and treatment of certain forms that to the casual observer seem identical. The truth is that the conjunctival sacs are favourable to the retention of various kinds of low organisms which find in the warmth and moisture of these folds of membrane conditions favourable to their multiplication; suppuration is then easily established and, when abundant, masks the primary disease, and hence the affections named chronic catarrh, chronic purulent ophthalmia, military or Egyptian ophthalmia, granular lids, follicular conjunctivitis, and trachoma have been by different authorities classed together as forms of the same disease. The author of the present little *brochure* regards military ophthalmia and trachoma or granular conjunctivitis as two quite distinct affections and considers trachoma as invariably chronic. His inquiries show that in 1888 there were in the Prussian army two cases of trachoma in every 1000 soldiers and in the Austrian army at about the same date there was a ratio of 8 per 1000. The pathological conditions present in trachoma are well described and illustrated. He quotes in full the description of Larrey in regard to military ophthalmia as he observed it in Egypt, and the account given in Mackenzie's treatise of the outbreak of contagious ophthalmia on board the slave ship *Rôdeur* and shows that these were examples of contagious ophthalmia. He gives as the consequences of trachoma symblepharon posterior, xerosis, entropion, ectropion and trichinsis, blepharitis, pannus, ulcers, abscess, and opacities of the cornea, and, which is not generally admitted, secondary glaucoma. In regard to the etiology of the disease he has no doubt that it is contagious, the contagium being a special but not yet isolated microbe. A chapter is devoted to the geography of the disease in which it is shown to be very widely distributed, diminishing in frequency from the south towards the north. In the section on the Treatment of Trachoma reliance is placed by the author on the internal administration of arsenic, quinine, cod-liver oil, iodide of iron, glycerophosphate of lime, and citrate or malate of iron, and the topical action of nitrate of silver, sulphate of copper, petroleum, corrosive sublimate solutions of various strengths, tannic acid, alum, subacetate of lead, chloride and sulphate of zinc, chromic acid, protargol, binoxide of mercury, tincture of iodine, iodoform, boric acid, mercury cyanide, salicylic acid, pyoctanine and ichthyol—an array of drugs that in themselves sufficiently attest the obstinacy of the disease, leaving out of the question the surgical measures that have been often fruitlessly employed—such, for example, as the thermo-cautery, scarification, *brossage*, extirpation of the superior sac, and other proceedings. Though the treatise is small it contains much information and may be read with advantage by all who are working in ophthalmic wards or hospitals.

Four Epochs of Woman's Life: A Study in Hygiene. By ANNA M. GALBRAITH, M.D., Fellow of the New York Academy of Medicine. With an introductory note by JOHN H. MUSSER, M.D., Professor of Clinical Medicine, University of Pennsylvania. London and Philadelphia: W. B. Saunders and Co. 12mo., pp. 200. 1902. Price 5*s.* net.—In this work the author discusses many questions of interest to mothers and their daughters. She considers the four epochs of a woman's life as maidenhood, marriage, maternity, and the menopause. Under the first heading a short account is given of the anatomy and physiology of the female generative organs and of some of the anomalies of menstruation. The second part deals with such matters as the marriage question mainly from the medical point of view and the ethics of married life. In the section on maternity some useful information is given as to the care of the mother during her pregnancy, confinement, and the lying-in period, and the care of the newly-born infant. Lastly, the troubles likely to assail a woman at the menopause are considered and some hints are given for home treatment. The book is interestingly written and should prove of value to women.

An Introduction to Physiology. By WILLIAM TOWNSEND PORTER, M.D., Associate Professor of Physiology in the Harvard Medical School. Part IV., Physiological Optics. Cambridge, Mass.: University Press. 1902. Pp. 99. Price 2*s.*—This little work is intended to teach the student how by means of a few lenses and some easily made apparatus he can perform physical experiments that will enable him to understand the principles of refraction and reflection of light. The apparatus, of which a drawing is given, consists of a small lantern containing an electric light and having an opening at one side into which a tube containing three lenses and a diaphragm are fixed. The light emerging from this chamber, owing to the disposition of the lenses, is composed of parallel rays and enters an orifice in the side of an adjoining optical box. The course of the rays in this chamber is rendered apparent by burning some Japanese incense. The position of the principal focus and of the conjugate foci, the laws of reflection and refraction, can with a little ingenuity on the part of the student be easily demonstrated. Having mastered these fundamental facts the phenomena of refraction in the eye are discussed and a good account of the mechanism of accommodation as explained by Helmholtz is given. The views of Tscherning are not mentioned. Sections are, of course, devoted to the subjects of myopia, hypermetropia, and astigmatism. In small compass the author has compressed a large amount of useful information.

ERRATUM.—In reply to a correspondent we inadvertently stated in THE LANCET of April 26th, p. 1224, that the price of "The Operations of Surgery," by W. H. A. Jacobson and F. J. Steward, was 34*s.* This was quite true as regards the third edition but the price of the new (fourth) edition is £2 2*s.*

New Inventions.

AN EYE SPECULUM.

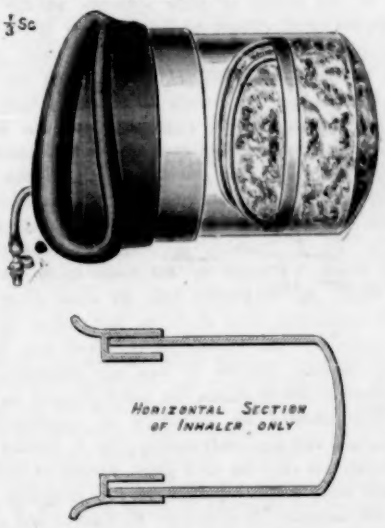
THE accompanying drawing illustrates a modification in Clark's speculum which has been made for me by Messrs. Weiss. It consists in the eyepieces being solid, to keep the lashes out of the field of operation during the extraction of cataract, iridectomies, discission of capsule, and similar operations. This end it fulfils perfectly, and although the increase in the bulk of the eyepieces limits slightly the width of the palpebral opening, still the surgeon soon accustoms himself to this trifling inconvenience, which is more than compensated for by the free way in which both

knife and scissors can be used without cutting or touching the lids or the lashes. When the impossibility of rendering the lashes aseptic is considered the advantage of the instrument, which keeps them away from the wound, will be recognised by everyone who does not cut off the lashes before operating.

Cavendish-square, W. WILLIAM LANG.

A NEW ANÆSTHETIC INHALER.

WHILST administering the A.C.E. anæsthetic with the celluloid cap and sponge inhaler, my attention has been drawn on various occasions to the two imperfections in this method of administration. These are: first, in prolonged operations the sponge becomes saturated with the anæsthetic with the result that the excess of liquid and exhaled moisture flows down the inner surface of the inhaler on to the patient's face, causing blistering or cutaneous inflammation, which though slight in character is not infrequently irritating and troublesome; secondly, the sponge, unless fitting accurately and rather tightly to the concavity of the inhaler, tends to fall, especially when saturated with the anæsthetic, on to the patient's face.



To obviate these two possibilities Messrs. Down Brothers made, according to my instructions, the celluloid inhaler here shown and described. For the prevention of blistering of the face I have devised the detachable face-piece with an inner lip, leaving a space between it and the inner surface of the inhaler of sufficient depth to contain any excess of moisture which flows down the inner surface. This face-piece can be detached at pleasure and any excess of liquid in the space between the two lips can be shaken out over a towel. With regard to the possibility of the sponge falling on to the patient's face, this is prevented efficiently by the light metal spring with cross-bars fitting the inner circumference of the inhaler. After giving the inhaler a thorough trial I am confident that these two simple additions are effectual and add greatly to the comfort of the administration. I must draw special attention to the importance of removing the face-piece as soon as the administration is over as the action of the anæsthetic is liable after a time to cause adherence to the inhaler. A. WARING, M.B. Lond.

Nottingham.

COLCHESTER MEDICAL SOCIETY.—The spring meeting of this society was held at the Cups Hotel, Colchester, on May 20th. In the absence of the President (Mr. J. Taylor of Earl's Colne) Mr. Alderman H. Laver, J.P., took the chair. 18 members sat down to dinner and afterwards the general meeting was held. Dr. E. Chichester read a paper on Methods of Detecting the Diphtheria Bacillus, with microscopical demonstrations. Dr. Sinclair read a paper on Albuminuric Retinitis in Pregnancy. The Secretary (Dr. B. H. Nicholson) showed the following: (1) A case of Phelps's Operation for Talipes, with complete cure after four years; (2) Bow-legs, Osteotomy of the Tibia and the Fibula with x-ray photographs; and (3) a case of Excision of the Tongue by Whitehead's Method with Ligature of the Lingual Artery.

THE LANCET.

LONDON: SATURDAY, MAY 31, 1902.

Army Medical Efficiency.

THE Secretary of State for War and Sir FREDERICK TREVES in the course of their speeches at the late annual gathering of officers of the volunteer forces who have served in the South African war made some allusions to the Army Medical Service which are not without interest at the present time seeing that the competitive examination for admission into the Royal Army Medical Corps in July next is the first examination which will take place under the terms of the new Royal Warrant. The probable results of that examination have given rise to a good deal of speculation and curiosity. Meanwhile, Sir F. TREVES, in speaking about "The Imperial Forces," alluded in eulogistic terms to the way in which Mr. BRODRICK had set about doing the hard and responsible work which it had fallen to his lot to encounter. Sir F. TREVES remarked that as to the Army Medical Service it was the Secretary for War's avowed object to obtain the best that could be provided. This afforded Mr. BRODRICK an opportunity of recognising and very graciously thanking Sir F. TREVES and his colleagues not only for their great services in the field during the most arduous portion of the campaign but also for the valuable aid which Sir F. TREVES and other distinguished members of the medical profession had subsequently rendered by their unremunerated labours in the reorganisation of the Army Medical Department.

Speaking of the amendments and changes which had been found necessary in the Army Medical Service "owing to the greatness of this war," Mr. BRODRICK expressed his confidence in the success of the task that had been committed to them because of their having had at their back for the first time the heads of the civil medical profession, who he hoped in future would work hand in hand with the Royal Army Medical Corps to the immense advantage of the British soldier and of the nation. In saying this the War Minister is expressing a view which we have always held. The public medical services and the great body of the civil profession are bound up with one another; their interests and relations are mutual and reciprocal, and the heads of the civil profession in reality constitute the only special scientific jury that can properly estimate and judge of the value or otherwise of the work done by the public medical services. So long as these services are recruited from the medical universities and schools of this country it is obviously necessary that the terms and conditions held out by the Government should be such as to commend themselves in the main to the great body of the profession. Speaking broadly, what is best for the public is best also for the medical service and the profession. A medical department is a scientific, technical, and specialised branch of service, and the nation has a right to expect that its members shall be of good quality, well trained, and up to date in their acquirements and practice. Efficiency in the army is now the cry, and if the alleged disclosures in the forthcoming report of the Committee on the Education and Training of Army Officers be well founded there would seem to be plenty of room for radical changes and reform in other directions than the Army Medical Department. To say that what is wanted is a really efficient medical service is no doubt merely to state a platitude but the means to secure it are nevertheless apt to be lost sight of. It means money for one thing, but it means other things besides money.

Taken as a whole the new Warrant is, as we have said, a good Warrant; it contains a number of new and excellent points and goes a long way towards securing efficiency. Increased facilities for professional study will call for an increase of the medical establishment by which it is to be hoped that the amount of foreign service on the part of medical officers will be lessened. We have no doubt about the sincerity of Mr. BRODRICK'S intentions and efforts, as Sir F. TREVES assures us is the case, to provide the army and the nation with the best medical service. There is an important matter, however, to which, although we have frequently touched upon it already, we must again refer. It is as to the position and rates of pay of medical officers whilst serving in India under the Indian Government. Candidates for commissions in the Royal Army Medical Corps are, it seems to us, entitled to have some definite information on this head and to know also whether it is proposed to take any steps to lessen the undue amount of foreign service which medical officers have had to perform for some years past. We venture to suggest that it would be very useful and opportune if Mr. BRODRICK were to seize an early occasion for enlightening us on these points.

Hæmatology.

WE have on several occasions drawn attention to the advances which have been made of late in our knowledge of the pathology of the blood. The results which have been published by numerous observers go to show that valuable clinical information may be obtained by systematic examination of the blood. The technique required is gradually being simplified and the more recent methods are neither elaborate nor difficult to learn. The time required for counting the blood-corpuscles may in the early endeavours be considered rather long, but with practice will come celerity.

The rapid growth and development of this particula branch of medical science have caused it to be distinguished by a separate name—"hæmatology"—and in conjunction with the investigations that have been made many terms hitherto little known have now come into common use and several new ones have been introduced. Thus the red blood corpuscles are denominated "erythrocytes," whilst according to their size and nuclear characteristics they are designated as normoblasts, megaloblasts, and microblasts, whilst certain intermediate forms are known as mesoblasts. The white blood corpuscles are, of course, now referred to as "leucocytes." It has been

shown, however, that no less than six distinct varieties of leucocytes may be recognised in the healthy blood of an adult. They occur in varying numbers and percentages under different physiological and pathological influences, and an accurate knowledge of their appearances and the conditions under which they are seen or are absent will lend considerable aid in many cases of doubtful diagnosis. The leucocytes are, under certain circumstances, increased in number, yielding the condition known as leucocytosis. This phenomenon is being investigated by many observers and if a complete knowledge of its mode of production has not yet been arrived at it is not for want of much intelligent observation and work. Leucocytosis has been shown to exist under both physiological and pathological influences. Under the former are included leucocytosis of digestion, of pregnancy, and of parturition. A transient increase in the number of leucocytes of the blood drawn from a peripheral vessel, and not involving a disturbance of the normal ratio between the different forms of cells, is produced by active local or general muscular exercise, by brief exposure to atmospheric cold, and by the application of electricity and of massage. Dry or moist heat, if long applied, also increases the number of leucocytes. Terminal or pre-agonal leucocytosis is a term which has been given to the increase in the number of white cells which has been observed shortly before death. Under the term "pathological leucocytosis" a number of conditions are included—inflammatory and infectious leucocytosis, post-hæmorrhagic leucocytosis, toxic leucocytosis, and the leucocytosis associated with malignant disease. The estimation of the percentage of hæmoglobin of the blood also affords useful information, especially in the diagnosis of pernicious anæmia. Other processes have been introduced, but at present most of these are only in the experimental stage and their clinical indications have not been accurately determined. Amongst them we may mention the estimation of the relative volumes of corpuscles and plasma, estimation of the specific gravity of the blood and of its alkalinity, determination of the rapidity of coagulation, and the counting of the blood-plaques. The other procedures which are better known, and which we need only mention to complete the list of processes to be resorted to in a complete examination of the blood are simple microscopic examination of the fresh blood, bacteriological examination, determination of the serum reaction, and spectroscopical examination.

It will thus be seen that hæmatology is rich in results that have already been achieved and also in possibilities that future research may develop. A practitioner wishing to keep abreast with modern methods of clinical examination cannot afford to disregard the work which has already been done. The indications yielded by the observation of changes which occur in the blood under varying conditions have now a definite value. They may be divided into two main classes—namely, phenomena which are pathognomonic of certain diseases; and auxiliary data, which may prove most helpful in establishing the precise nature of a disease when considered in connexion with other clinical manifestations. Of the first class, the most typical examples are afforded by the results of hæmatology in connexion with leukæmia, malarial fevers, and filariasis. In the second class we may mention as instances in which an examination of the blood is almost essential for diagnosis, Hodgkin's disease, splenic anæmia, and secondary anæmias dependent upon various causes. With regard to the last-named, the blood has been shown to give valuable information in the diagnosis of appendicitis, malignant disease, enteric fever, sepsis, and diabetes, and in many cases prognostic indications are also yielded. In hæmatology we have a factor in clinical diagnosis which is likely to take a prominent position in the near future. We have referred only to the principal facts which have been established but there are many minor ones which may presently be considerably elaborated. Students of the present day, therefore, will do well to familiarise themselves with the methods involved in the examination of the blood, for a knowledge of hæmatology bids fair to be of great value in practice.

Cancer Research.

A MEETING of the directors of the Royal Infirmary, Dundee, was held on Thursday, May 8th, at which a letter was read from Mr. J. K. CAIRD intimating that he was prepared to give the munificent sum of £18,500 to build a new hospital exclusively for cancer patients. The fact was briefly announced at the time by one of our Scottish correspondents. The building, we understand, will contain three wards for males and three wards for females of from 16 to 20 beds each, also one ward of six beds and 12 rooms of one bed each for paying patients. Provision will be made for six dining-rooms for convalescents, six kitchens, six rooms for patients' clothes, six pantries, and six store-rooms, besides bathrooms and sanitary accommodation. The upper floor will have about 26 bedrooms for nurses, with three sitting-rooms, a box-room, and a lavatory. The tentative plans for the new hospital, which it is proposed to erect behind the infirmary, show a design for a building in two pavilions each complete in itself, so that one half can at any time be used for other than cancer patients in relief of the present infirmary. Mr. CAIRD proposes that "one of the wards which may not at first be occupied might be fitted as a laboratory for original work in the investigation of the disease and its cure, for which an additional sum of £1000 each year for five years will be guaranteed." The directors at once decided to avail themselves of Mr. CAIRD'S generosity, to build the new hospital according to the donor's plans, and to take upon themselves the responsibility of furniture and maintenance.

Mr. CAIRD by his generosity displays not for the first time a desire to lighten the sick man's burden, a desire which cannot be held in too high esteem. His philanthropy could not be directed towards a more worthy and deserving purpose than the relief of patients suffering from cancer, while his wish to further scientific research shows that he appreciates the value of what has been done of late years in our physiological and pathological laboratories. If we venture to criticise the conditions of the second portion of his gift to his native town it is with full appreciation of the excellence of his motives. We may perhaps suggest, however, that at the present time Mr. CAIRD'S intentions to benefit the victims of cancer would be more speedily fulfilled if the £5000 to be spent

on research work were handed over to the committee appointed by the Royal College of Physicians of London and the Royal College of Surgeons of England for the systematic study of this terrible disease. In a leading article in THE LANCET we recently commented on the general character of the scheme proposed by the Royal Colleges to be set in motion for the investigation of cancer. We criticised certain points in the scheme that we thought might have been bettered, but our criticism was directed to detail. Any well-organised attempt to protect our population from the terrible scourge of malignant disease must in its main object command our approbation. The Royal Colleges need funds in order to carry out the proposed measures of research and Mr. CAIRD'S munificence to Dundee will, we hope, encourage other wealthy philanthropists to dower the efforts of scientific research in London.

We cannot help wishing that it had occurred to Mr. CAIRD'S generous mind to adopt this course. This we say with no desire to detract from the merits of his admirable action or to deprive Dundee of any of the fruits of her open-handed citizen's generosity. We congratulate Dundee upon possessing Mr. CAIRD and Mr. CAIRD upon his resolute intention to benefit his sick neighbours in a thoroughly practical manner, but we have some doubts whether the course that he has adopted in subsidising a school of special research in Dundee is the one that will best serve his ultimate purpose. The prevention of cancer is a pressing matter and if Mr. CAIRD'S idea is carried out it will involve a delay of perhaps two years before the new efforts of research will be initiated at Dundee. The buildings are not ready and when they are erected and equipped officers with sufficient experience will have to be found and appointed to carry out the investigations and to use their best endeavours to get into touch with the other workers in the same field. Isolation in scientific research almost inevitably means that much work is done that is unnecessary, because it is done over ground that has already been thoroughly tilled by others. The supervision of the investigations accomplished by various observers by a competent central committee obviates such repetition.

Annotations.

"Ne quid nimis."

A NOVEL WITH A PURPOSE.

RATHER more than three years ago Mr. Rider Haggard entered into honourable competition with Ibsen and Zola by attempting to cure with a novel the deafness and blindness of those for whom blue-books and statistics are vain things fondly invented. In "Dr. Therne" he wrote a didactic treatise which is also an excellent story and there is no doubt that in so doing he served admirably the cause of public health by his vigorous advocacy of vaccination. We have received copies of an interesting correspondence which has taken place between the well-known author and a convert whom he has made. Mr. George J. Battle of Rushden, in his letter to Mr. Haggard, states that "Dr. Therne" has controverted theories concerning vaccination which he has held for 20 years. "At Wellingborough," he says, "in 1898 I was fined for non-compliance with the Vaccination Act and I have since obtained exemption certificates for my three children under the conscientious objectors clause in the Act of 1898. Your 'Dr. Therne' has made me think that non-compliance with the Vaccination Act is the worst course to take and I shall not only have my children vaccinated but shall submit to the operation myself." Mr. Rider Haggard, in replying to the letter, after saying that he wrote the book out of the fulness of his faith in vaccination, tells the following story: "A week or so ago the local papers reported an outbreak of small-pox at Ipswich. From the report it would seem that the father of the family had the elder children vaccinated. He then became an anti-vaccinist, with the result that the younger children were not thus protected. Small-pox got amongst the family and (according to the report) the unvaccinated children were all stricken down, while so far the vaccinated had remained immune." Stories equally convincing might be multiplied and it is not infrequent for our readers to ask us why we do not lay stress upon such cases. As a matter of fact such occurrences told in our columns have no particular effect, as our pages are read by an audience already in no doubt as to the benefit of vaccination. But when a popular novelist like Mr. Haggard, who has also shown himself to be a serious and responsible politician, narrates them in the columns of a lay paper they have great weight. We congratulate Mr. Battle on having the pluck to announce a change of mind. We are often invited to do honour to the courage of persons who remain true to their convictions in the face of opposition, but everyone knows that in these liberal-minded days no particular courage is required for the exhibition of such constancy. The faithful, or it may be obstinate, persons are sure of approval. Now the man who changes his mind, because to remain of the original opinion would be false to his inner convictions, has to incur the reproaches of those whose side he has left, and these are sometimes hard to bear.

THE ETIOLOGY OF CANCER.

IT is a widespread and popular idea that a blow or injury of some kind or other is sometimes followed by a malignant growth at the place in question. This view recently found expression at an inquest held by the Fulham coroner on a man, 58 years of age, a coalman, who had died in the Poor-law infirmary. It was stated in evidence that about a year ago the deceased occupied a house in Little Clarendon-street, Somers Town, and on asking one of his lodgers for rent which was owing he was struck and kicked, and that in consequence of this violence he developed cancer of the jaw and his teeth fell out. The alleged assailant and his wife, however, gave evidence at the inquest, admitting an altercation but denying the infliction of serious injury. They also stated that the incident occurred at least 23 months ago and that the deceased had previously suffered from "gumboil" and decayed teeth. Dr. C. T. Parsons, medical superintendent of the Fulham Infirmary, said that death was due to cancer of the jaw, but that it was impossible to say whether this arose from injury or from natural causes, and the jury returned a verdict in accordance with this evidence. The nature of the new growth does not seem to have been precisely described, and perhaps rightly so, for a coroner's inquest is not the proper occasion for discussing questions of histological minutiæ. Among the facts to be accounted for by those who incline to the popular view that cancer may follow an injury, are the following: that although males suffer much oftener than females from accidents and injuries yet females are much more liable to malignant disease than males; while the parts of the body most apt to be attacked by malignant growths are not the most exposed parts. Even in the female breast, one of the principal localities of selection, the disease seldom affects the nipple or the skin but usually originates as a nodule in the gland. On the other hand, there is good reason

to suppose that a continuance of slight irritation may create a predisposition to cutaneous cancer, as was pointed out long ago in the case of chimney-sweeps and more recently in the case of workers in paraffin factories; while the connexion between *betel* chewing and oral cancer, to which we refer in another place, has the same probable explanation. From the frequency of malignant disease in the mouth and perioral region dental surgeons often see it in the early stage, a circumstance which provides opportunities for the exercise of skill in diagnosis and for the practical advancement of our knowledge of the disease. The "gumboil" from which the man who formed the subject of the inquest was said to have suffered may have been epulis, a chronic manifestation of alveolar sarcoma very different in its nature from an ordinary acute abscess connected with a carious tooth.

"MILK-BLENDED" BUTTER.

THERE can be no doubt that the Board of Agriculture intends to give the question of "milk-blended" butter very serious consideration with a view to check the unfair competition which its sale has introduced. A strong deputation representing the colonies as well as the mother country waited upon Mr. Hanbury at the House of Commons on May 27th and urged upon him to clear the law from the confused state in which it was at present in order that the sale of watered butter could be placed under more effectual control. Mr. Hanbury gave a very reassuring answer. He not only agreed that legislation was required but that it was required without delay. He expressed the desire of the Board of Agriculture to keep up the standard of agricultural products and to protect the public by making certain that the buyer of butter should be quite sure of getting what he asked for.

THE NAVAL MEDICAL SERVICE IN GERMANY.

IN a recent leading article[1] we called attention to the regulations which prevail in Germany for maintaining a high standard of professional knowledge in the naval medical service. Our remarks having excited some comment we think that a more detailed account of the regulations to which we alluded may be interesting to our readers. In the German naval medical service every medical officer without exception has to attend a course of four weeks' duration at the universities of Kiel, Rosto, Greifswald, and Berlin respectively. The course includes every branch of practical medicine and is given during the university holidays by the professors of the universities. The medical officers of the navy (and those of the army likewise) are ordered to attend these courses at least twice, once when in the rank of Ober-Assistenzarzt and another time when in the rank of Stabsarzt. A great many of the medical officers, though not all, have to attend the course a third time when in the rank of Ober-Stabsarzt. The courses are held at the expense of the Government. The medical officers receive their regular pay and also their travelling expenses. Medical officers of the navy who have received specially good training are allowed, or rather deputed, to hold civil appointments for one year or two years whilst continuing to belong to the service. They receive the pay of their rank during that time and at the expiration of their appointments they return to the navy. The following civil appointments are among those open to naval medical officers: assistantships at the Hamburg General Hospital, at the clinics of the Kiel University, and at the Berlin Institution for Infectious Diseases, while there are also posts at the Imperial Health Office which they may be invited to fill. Until two years ago assistantships at the Charité Hospital of Berlin were open to naval medical officers but since the complete separation of the naval medical service from the army medical service these appointments are now given to members of the army medical service exclusively. At the great naval hospitals of Kiel, Wilhelmshafen, and Cuxhafen ample opportunity is afforded to naval surgeons for professional study. From all of this it will be seen that the officers of the German naval medical service are encouraged to look upon their profession in the proper way. They are enabled at no expense to themselves, and at different points in their career, to get into touch with modern university teaching, while their professional attainments and records are taken into account in allotting to them civil appointments. The opportunities which they have of holding clinical posts in great general hospitals should be simply invaluable in keeping them up-to-date in practical therapeutics.

[1] THE LANCET, April 26th, 1902, p. 1193.

THE DISTRIBUTION OF PLAGUE.

THE report of the medical officer of health on the state of plague in Cape Colony during the week ending May 3rd says that at the end of the previous week six persons remained under treatment—namely, five Europeans and one native. There have been no fresh cases during the week ending May 3rd. Mr. D. C. Rees, the senior Government plague medical officer of Cape Colony, has, we understand, been appointed medical inspector on the staff of the medical officer of health of Cape Colony. A *Times* telegram dated Paris, May 27th, states that a note published by the Colonial Office announces the existence of eight cases of plague at Mojanga. There have been four deaths since May 19th. Mojanga has been declared infected and all the neighbouring ports have been informed of the outbreak of the disease in Madagascar. 33 cases of bubonic plague were reported at Hong-Kong for the week ending May 24th.

REPORT ON DIETING OF PAUPER LUNATICS IN SCOTLAND.

THE Commissioners in Lunacy for Scotland have presented a supplement to their forty-third annual report which deals with the dieting of pauper lunatics in the asylums and poor-houses of Scotland and which has been drawn up by Dr. J. C. Dunlop of Edinburgh in compliance with instructions issued by the General Board of Commissioners in Lunacy in March, 1900. A very full and exhaustive examination was made of the returns of the regulation dietaries in the various asylums and poor-houses and in many instances by visits to the institutions the returns were verified as correct. A careful study of the composition of the foodstuffs used in asylum dietaries, according to the proportions of proteid, fat, and carbohydrate present in them and estimates of their "energy values" according to established physiological principles were made. For dietary purposes the male working lunatic was considered as an able-bodied man doing a moderate day's work, as it appeared from the scheduled returns that in most asylums the working male patient was employed about six or seven hours a day at agricultural or other manual labour. The standard of energy value necessary for such a patient was taken at 3500 calories, while for the working female patient the amount estimated as required was 2800 calories, or four-fifths of that of a male. It was also calculated that the average male asylum dietary should have an energy value of 3300 calories per male patient and 2650 calories per female patient when both working and idle patients were considered. On the basis of these requirements the various dietaries were critically examined. Attention was also paid to the facts that variety in food and a proper supply of fresh vegetables and of condiments were a *sine quâ non* for all dietaries, as it was only when these conditions were

satisfied that any dietary could be regarded as adequate. Calculations were then made of all the dietaries as regards their food value and the results were classified into three groups—viz., dietaries which were excessive, dietaries approximating to the standard, and dietaries which were defective. Thus among the dietaries for male patients in 39 specified institutions 11 were found to be excessive, 13 were approximately standard, and 15 were deficient; and among the corresponding dietaries for female patients 25 were excessive, eight were approximately standard, and six were deficient. Excessive feeding was thus found to be more prevalent in female than in male departments, and it was clearly evident, says the report, that some of the dietaries might safely be reduced and others with much advantage might be increased. Excess of carbohydrate food was noted in the dietaries of three institutions. The report concludes with valuable suggestions regarding the proper feeding of asylum patients. Bread is recommended to be given *ad libitum* with all meals, "an improvement which is called for in nearly all the asylum dietaries," and little fear is entertained of undue waste arising from this source. The minimum weekly amount of meat uncooked without bone should be 24 ounces per patient distributed into four meals, of potatoes three pounds, and of other fresh vegetables one and half pounds. A fish dinner, or a fifth meat dinner, should be given weekly. The weekly allowance of butter should be not less than five ounces and tea, coffee, or cocoa should be given twice in each week. The report forms an important document on the dietetics of the insane in pauper asylums.

THE DUST PROBLEM ON THE RIVIERA.

THE motor-car has produced one great evil—it has caused a most serious increase in the quantity of dust on the roads. On the Riviera, where the motor-cars are numerous, the nuisance is so great that it has been described as "the dust plague." Even the strong and healthy feel the discomfort, and invalids, especially those with affections of the chest for whom the Riviera has been a favourite resort, are beginning to find the place intolerable. With considerable ingenuity and assiduity Dr. Guglielminetti of Monte Carlo has endeavoured to find a remedy for the evil. In the *Gazette Médicale de Paris* of May 17th he advocates as the result of his labours the tarring of the roads. Thorough watering would be very expensive. The use of sea water is open to the objection that after evaporation salt would remain which would injuriously affect the eyes of pedestrians and the dresses of ladies. Moreover, the heat is so great that the roads rapidly dry after being watered. Dr. Guglielminetti therefore turned his attention to the processes which have been substituted for watering roads. In California and other American districts water has given place to petroleum as a dust-layer. In Algiers olive oil and naphtha oil have been used since 1896. The American method is to cover the roads with a layer of heavy unrefined petroleum heated to 80° C. An asphalte-like deposit, which is solid and durable and forms but little dust in summer and no mud in winter, is formed. This roadway is greatly appreciated by cyclists and drivers and a saving of 45 per cent. of watering expenses is effected. Two applications of petroleum a year are sufficient; 5000 litres of petroleum, which cost 400 francs, are required per kilometre. But in France the cost would be five times as much. Dr. Guglielminetti therefore turned his attention to coal-tar which has been applied to roads in the Haute Garonne and in Ravenna in 1901. In the latter town 246 metres of roadway were treated with excellent results. The authorities at Monte Carlo have been induced to try the tar method on the road leading to the slaughter-house. In spite of the prolonged period of drying the results surpassed all expectations. The surface became so hard and compact that it was difficult to break up. There was no dust and rain did not penetrate the layer formed by the tar. After 40 days' traffic the surface was not damaged and had resisted the wear and tear of wheeled traffic. The cost was from six to seven centimes per square metre. The prefect of Alpes Maritimes and the engineer-in-chief of roads and bridges have favourably received the idea and are willing to allow experiments on public roads provided that they are made at private expense. The municipal authorities and hotel-keepers of Monte Carlo are moving in the matter. We trust that Dr. Guglielminetti's efforts to combat "the dust plague" will be crowned with the success which they deserve.

VOLUNTARY AID FOR THE SICK AND WOUNDED IN SOUTH AFRICA.

AN account of the voluntary organisations in aid of the sick and wounded during the war in South Africa has just been issued in the form of an interesting and instructive Blue-book,[1] illustrated by a number of well-executed reproductions of photographs and diagrams. In the book will be found articles dealing with the work of the National Aid Society, the Red Cross Commissioners in South Africa, the St. John Ambulance Association and St. John Brigade, and the Army Nursing Service Reserve, together with a description of the hospital ships and trains. The work of the foreign Red Cross societies is described and there is an account of the voluntary aid received from British colonies and other British possessions. Private hospitals and minor schemes also receive notice and there is a chapter on the organisation of convalescent homes in the United Kingdom. The object of the report is not so much to give an account of the actual work done as to indicate the manner in which the several schemes were initiated and carried out; and as showing generally the resources that are likely to be made available in future wars the information contained in the pages of the report is of great value. It is interesting to note that "the total value of the voluntary aid resources placed at the disposal of the sick and wounded of the army must have amounted to close on £1,000,000." Among the conclusions arrived at in the final chapter of the report are that the voluntary aid organisations such as exist in connexion with continental armies are not applicable to the genius and spirit of the British nation and that the best organisation for this country would be the formation of local committees in time of peace.

THE PHARMACEUTICAL SOCIETY OF GREAT BRITAIN.

ON the occasion of the annual dinner of the members of the Pharmaceutical Society of Great Britain at the Whitehall Rooms, Hôtel Métropole, on May 27th, presided over by Mr. G. T. W. Newsholme, the speeches turned chiefly upon the desirability of pharmacy having a representative in the House of Commons. There are certainly points connected with the administration of the Pharmacy Act and the sale of poisons which can only be properly understood by a pharmacist. Sir William Church, in reply to the toast of "The Medical Profession," agreed that it was desirable that his own profession should have a better knowledge of pharmacy and should pay greater attention to pharmacology than they had done before. He instances the extraordinary ignorance shown by some candidates at medical examinations of the composition of simple and familiar preparations of the British Pharmacopœia. It was only quite recently, he said, that it had been discovered that ferrum redactum invariably contained arsenic, which obviously must seriously

[1] Report by the Central British Red Cross Committee on Voluntary Organisations in Aid of the Sick and Wounded during the South African War. London: His Majesty's Stationery Office.

modify the therapeutic action of the preparation. Referring to the bibliography of the subject he thought that the first pharmacopœia was issued at Nuremberg, although some held that drugs and their preparations were codified for the first time at Florence. Mr. H. G. Howse acknowledged that the medical profession was greatly indebted to pharmacists for the extraordinary advances which they had made in regard to the purity and preparations of drugs and to their standardisation and accuracy of dosage. The dinner was very well attended and amongst those at the President's table were Sir Frederick Abel, Dr. J. Attfield, F.R.S., Sir J. Crichton Browne, Professor Norman Collie, Sir William Church, President of the Royal College of Physicians of London, Sir Dyce Duckworth, Mr. H. G. Howse, President of the Royal College of Surgeons of England, Dr. W. H. Allchin, Dr. Donald McAlister, Sir William Turner (President of the General Medical Council), and Professor W. A. Tilden, F.R.S.

DYED MILK.

EVIDENCE is accruing that the practice of adding artificial colouring matter to milk is increasing. Samples are commonly met with thus coloured to give them a rich but false creamy aspect. The natural colour of milk bears no relation necessarily to the amount of cream present. It is very desirable that this practice should be stopped. The recommendation of the Departmental Committee on Preservatives and Colouring Matter in Food that the use of any preservative or colouring matter whatever in milk offered for sale in the United Kingdom should be constituted an offence under the Sale of Food and Drugs Act should speedily be put into force. We believe that annatto is the dye commonly employed and it is fortunate that it is harmless, though that fact does not justify the device. Certain coal-tar dyes have, however, been detected in milk and amongst them methyl-orange or, in chemical nomenclature, the sodium salt of dimethylaniline-azobenzene-sulphonic acid.

POISONING FROM THE APPLICATION OF CARBOLIC ACID TO THE UNBROKEN SKIN.

WE have published some cases of poisoning by carbolic acid from application of compresses to the unbroken skin.[1] In the following case, which is recorded in the *Boston Medical and Surgical Journal* of April 3rd by Dr. J. W. Wainwright, the same result was produced by the simple application of carbolic lotion to the skin. A vigorous man, aged 50 years, used a 2 per cent. solution of carbolic acid as an application for pruritus with temporary relief and without ill-results. One day at noon, after taking a hot bath, he used a 4 per cent. solution. He applied it to the abdomen, the thighs, and the lumbar region with the usual relief. At 7.30 next morning while dressing he suddenly felt a peculiar pain which he referred to the bladder. It increased and radiated through the abdomen. He could not finish his toilet and the administration of morphine became necessary. A quarter of a grain was injected without relief and the dose was repeated in half an hour. There were frequent rigors, each of which lasted for a few minutes, profuse cold perspiration, vomiting, and a desire to defecate. The eyes were prominent and fixed. There were vertigo and weakness of the lower limbs. After one and a half hours another quarter of a grain of morphine was injected. For 18 hours no urine was secreted. Appendicitis, renal calculus, and ptomaine poisoning suggested themselves. Four and a half hours after the onset of symptoms he became drowsy and would doze for a few minutes to be awakened by the recurring pains. The pulse was frequent and at times barely perceptible and the skin was moist and cold. Relief from pain began about four hours after the onset of the symptoms and at midnight he was comparatively comfortable. Examination of the urine revealed the characteristic smoky appearance of carboluria. For three days there were great depression and symptoms of acute nephritis. Recovery was complete in 10 days.

[1] THE LANCET, April 6th, 1901, p. 1011.

THE PREVALENCE OF SMALL-POX.

ON Saturday, May 24th, 50 cases of small-pox were admitted to the institutions of the Metropolitan Asylums Board; on Sunday, May 25th, 43 cases were admitted; on Monday, May 26th, 58 cases were received; on Tuesday, May 27th, 32 cases were accepted; and on Wednesday, May 28th, 35 cases passed through the hands of the authorities. In the county of Essex the small-pox cases notified for the week ending May 24th numbered 50.

AN ANALYSIS OF 155 CASES OF TABES DORSALIS, WITH ESPECIAL REFERENCE TO CAUSATION, SYMPTOMS, AND LENGTH OF LIFE.

IN the Spring Number of *Brain*, 1902, Dr. Byrom Bramwell publishes a lengthy and interesting article based on an analysis of 155 cases of tabes dorsalis met with in hospital and private practice. In a considerable proportion of the cases the course of the disease was followed during periods of several years and in most of the fatal cases the total duration of the disease and the immediate cause of death were ascertained. Of the total number of cases 140, or 90·3 per cent., were males, and 15, or 9·6 per cent., were females, a proportion which agrees closely with that of Gowers—viz., 10 males to one female. The ages at which the first symptoms of disease developed were noted in 151 cases, and in 112 of these, or 74·1 per cent., the disease commenced between the ages of 30 and 50 years. As regards etiology, syphilis was ascertained to have existed in 59·8 per cent., in the remaining cases its existence was doubtful or denied or not ascertained. The percentage of cases in which a definite history of syphilis was obtained was, however, higher in the last than in the first moiety of cases, probably because, as Dr. Bramwell thinks, the inquiries made were more stringent. In three at least of the syphilitic cases the patient had been treated very thoroughly for long periods of time with mercury and yet developed tabes, showing, says Dr. Bramwell, that prolonged and thorough mercurial treatment did not, in all cases, prevent the subsequent appearance of tabes—an important practical point as regards life insurance. The length of time between syphilitic infection and the development of tabes was less than 20 years in the vast majority (91 per cent.) of cases, the second, third, and fourth quinquennium after infection claiming each nearly a fourth of the victims. As regards general physique it was noted that many of the patients were robust and strong men of fine muscular development. Dr. Bramwell regards syphilis as the most important, but not the sole, cause of tabes dorsalis. The toxins produced by the syphilitic virus, says Dr. Bramwell, have a widespread effect upon the nervous system, rendering it liable to be affected injuriously by other conditions such as various forms of strain and irritation (including exposure and alcoholic or sexual excesses) which are probably the exciting causes. The commonest initial symptoms were "lightning pains" in 53 per cent. of the cases, diplopia and ataxia in 8·6 per cent. each, loss of vision in 6 per cent., derangements of urination in 4 per cent., gastric crises in 3·3 per cent., and numbness in the feet in 2 per cent. Lightning pains were also the commonest symptoms in the course of the disease. They were present in 148 out of the 155 cases, or 95·4 per cent., and were in every case felt in the legs and less often in the trunk, arms, and head. In several cases in which optic atrophy developed the severity of the lightning pains lessened with the loss of sight. The

relative frequency of the other symptoms was as follows: loss of knee-jerk was present in 82 per cent. of the cases, ataxic gait or ataxia in standing with the eyes closed in 77·5 per cent., derangements of the bladder in 74 per cent., and Argyll-Robertson pupil in 72 per cent. Mental symptoms in the form of general paralysis developed in 16 cases, impairment of memory was noted in five cases, and mental depression in four cases. In the great majority of cases, however, mental activity was unimpaired, even in the later stages of the disease. As regards prognosis it appeared that 31 of the 155 patients were dead, 75 were alive, and 49 could not be traced at the time of writing the article. Of the 31 fatal cases the average duration of the illness was 8·3 years, the longest being 22 years and the shortest one and a half years.

THE MEDICAL SOCIETY OF LONDON.

THE annual conversazione of the Medical Society of London was held on May 26th. After a reception by the President, Dr. W. H. Allchin, the annual oration was delivered by Dr. Stephen Mackenzie on the Powers of Natural Resistance or the Personal Factor in Disease of Microbic Origin. This excellent address is published in full at page 1513 of our present issue. A vote of thanks to the orator was proposed by Dr. Sidney Coupland and seconded by Mr. J. Bland-Sutton. Music was provided in the hall and in an adjoining room there was exhibited a collection of etchings and drawings of Old London and its vicinity belonging to Mr. Jonathan Hutchinson, jun., who was himself in several instances the artist. The collection included certain of Whistler's "Set of Thames Etchings," among others the famous "Limeburner" and "Rotherhithe" (the largest plate in the set), a fine impression of Sir F. Seymour Haden's magnificent etching, "The Breaking up of the *Agamemnon*," "The Guardship at the Nore" by J. M. W. Turner (a beautiful rendering of sea-scape), and Mr. D. Y. Cameron's "London Set." Among the miscellaneous etchings and drawings from Mr. Hutchinson's pen we may choose for particular commendation "Southwark Bridge from St. Paul's Wharf Pier." The collection was a remarkable one and its contemplation formed an agreeable change to the ordinary routine of these functions.

SUPPURATIVE PERIODONTITIS—PYORRHŒA ALVEOLARIS.

IN the last issue of the Transactions of the Odontological Society of Great Britain Mr. Kenneth Goadby publishes a preliminary account of his investigations into the pathology of suppurative periodontitis. One point of some interest would seem to be that cultural examinations have demonstrated in many cases the presence of members of the yeast family in the discharge from the sockets of the teeth. Mr. Goadby has, moreover, found yeast in the small masses of tissue adhering to the apices of teeth extracted in cases of suppurative periodontitis, and culturally he finds they appear to correspond to the yeasts found in the so-called chronic abscesses. From direct examinations of the pus he finds a marked difference in the species of bacteria morphologically represented in early and late cases, it being rare to find many cocci present in the later stages, the field being, as a rule, occupied by bacilli of various kinds and a good number of threads, the latter showing a tendency to stain irregularly and in patches. In discussing the question of the causal relation of certain bacteria to suppurative periodontitis he refers to an organism, a coccus hitherto not described. This organism is frequently present in cases of dento-alveolar abscess and appears to have some relation to the curious thick viscid pus found in some cases of suppurative periodontitis. The coccus is also found in septic pulpless teeth associated with abscesses. It produces a marked stringy viscous growth upon solid media and is extremely difficult to remove from the agar slant. The broth cultures also form stringy viscous growths, which at times adhere to the sides of the tube in the form of a cloud of colonies about 0·5 millimetre in diameter that are strongly adherent to the glass. Mr. Goadby considers it highly improbable that the ordinary pus organisms have any direct share in the production of suppurative periodontitis.

CANCER IN INDIA.

THE subject of cancer in India is exciting some interest at the present time in connexion with the scheme which has been launched in this country for the organised investigation of that and other allied forms of malignant disease. The *Indian Medical Gazette* for the month of May contains two excellent papers having a direct and special bearing on the subject. The first is by Captain W. J. Niblock, I.M.S., of the General Hospital, Madras, embodying the results of the experience obtained at that hospital, for which purpose the hospital registers for the past 10 years have been carefully gone through. All cases of carcinoma, sarcoma, and rodent ulcer—using the term malignant disease as synonymous with that of cancer in its broader sense—which have been admitted into that institution have been extracted, tabulated, and analysed. The other paper, by Dr. Ernest F. Neve, briefly summarises the history and results of "A Decade of Tumour Surgery in the Kashmir Mission Hospital." While there are no published statistics showing the frequency of admissions for cancer in the various hospitals throughout India, together with the regions of the body affected, cancer seems to be in Madras, at any rate, by no means rarely met with, and the same may be said of Kashmir. In looking over the tables compiled from the Madras Hospital registers one of the first things to strike us is the enormous number of native patients admitted for carcinoma of the cheek and jaws—a fact which is stated, and apparently on strong grounds, to be accounted for by the habit prevalent among Hindus and Mahomedans of both sexes of the chewing of *betel*. In Dr. Neve's paper it is stated that the total number of tumours operated upon between the years 1890 and 1899 was 2020, more than 50 per cent. of these being malignant.

ASSOCIATION OF ASYLUM WORKERS.

THE annual meeting of this association, formed in 1895 to promote the interests of asylum workers by improving their status and enlisting public sympathy in their work, was held on May 22nd at 11, Chandos-street, London, W., Sir James Crichton Browne presiding. There was a large attendance of medical officers of asylums and the Commissioners in Lunacy were represented by Dr. Sidney Coupland. A considerable number of nurses and attendants were also present. After the election of the officers and executive committee the President (Sir J. Crichton Browne) moved the adoption of the report (which was presented by the honorary secretary, Dr. G. E. Shuttleworth) in an interesting speech in which he reviewed the work of the association. The membership had increased from 2868 in 1900 to 4116 in 1901, and several additional asylums in all parts of the kingdom were now represented on the roll. The monthly organ of the association, *Asylum News*, had been from time to time enlarged, and its present size demanded, for free distribution among members, an increase of the annual subscription from 1*s.* to 1*s.* 6*d.*, which had been cheerfully conceded. In addition to intelligence of special interest to asylum workers the journal had contained valuable articles upon nursing the insane and upon other matters of an educational character. Sir J. Crichton Browne advocated the culture of the literary faculty amongst asylum workers, specially recommending the reading of sound novels, "free

from insanity and idiocy," as a wholesome recreative measure. Referring to lunacy legislation he thought that there was no immediate prospect of its introduction, but he hoped that when a Bill was forthcoming they would obtain a modest provision for old age or for any disability incurred in the course of duty. One of these days the increase of insanity and of all nervous diseases would startle the public, and then perhaps justice would be done to those battling with this stupendous social evil. The adoption of the report (with a code of rules) was seconded by Dr. T. B. Hyslop and was carried. The distribution of two gold medals and two silver medals for long and meritorious nursing service in asylums followed, the former being awarded respectively to Mr. W. Hope, now inspector at Colney Hatch Asylum (36½ years' service), and Miss M. Riches, head nurse at Heigham Hall Asylum, Norwich (35½ years' service); and the latter to Miss A. Garry, chief nurse at Gloucester County Asylum (28½ years' service), and Mr. C. Walker, charge attendant at Caterham Asylum (28½ years' service). By the kind liberality of the President bronze medals were also given to 28 approved competitors for the association medals in recognition of their high recommendations. A vote of thanks to Sir James Crichton Browne, moved by Dr. Oscar T. Woods, President of the Medico-Psychological Association, brought the proceedings to a close.

MEDICAL REPORTS OF THE CHINESE IMPERIAL MARITIME CUSTOMS.

THE medical reports of the Chinese Imperial Maritime Customs deal with the health conditions of the European population in several Chinese cities and are written by the Customs medical officers there stationed.[1] The contributors to the present series, together with the names of their respective towns, are as follows:—Dr. William Kirk, Ichang; Dr. J. D. Thomson, Hankow; Dr. H. J. Hickin, Ningpo; Dr. R. J. J. Macdonald, Wuchow; Mr. J. H. Lowry and Dr. H. M. McCandliss, Hoihow and Kiungchow; Mr. A. S. Deane, Pakhoi; and Dr. Ortholan, Szemao (who writes in French). The periods under consideration are either the year or the half-year ended Sept. 30th, 1900. Dr. Thomson discusses a variety of medical and surgical questions at some length and gives detailed clinical histories of cases of malaria, enteric fever, heat-stroke, and dysentery. In the treatment of malaria he used quinine both by the mouth and hypodermically, as well as calomel purges, frequent sponging, guaiacol inunctions, phenacetin, antikamnia or antifebrin combined with caffeine, digitalis, and brandy. One of the malaria patients was suffering from his third attack of the pernicious algid type and his symptoms closely resembled those of the collapse stage of cholera. Another had many injections of quinine between the shoulders without any untoward result, but an injection of 15 grains of the sulphate dissolved with the aid of hydrochloric acid and divided between the two thighs caused much inconvenience. In one thigh the solution was injected under the deep fascia and three days afterwards there was high fever with painful swelling and emphysema of the tissues. These alarming symptoms, however, subsided rapidly without leaving any ill-effects behind them and Dr. Thomson thereupon ascribed the evolution of gas to the contact of the acid of the injection with the alkaline juices of the tissues. In the other thigh, where the remainder of the dose was injected into the subcutaneous tissues, these broke down for a considerable distance and a portion of skin measuring about one inch by half an inch became necrosed. The patients suffering from heat-stroke, three in number, all had axillary temperatures of 110° F. and all died. Among the illustrations Dr. Thomson gives a reproduction of a skiagram of the Chinese woman's "small foot." Dr. Macdonald states that in Wuchow the plague was even more severe in 1900 than in the previous year. Dr. McCandliss and Mr. Deane also make reference to the presence of plague in their towns, not, however, among the European community.

[1] Published in Shanghai by order of the Inspector-General of Customs and sold in London by Messrs. P. S. King and Son, Westminster.

THE ROYAL LONDON OPHTHALMIC HOSPITAL.

IN 1901, as in previous years, the Royal London Ophthalmic Hospital accomplished much beneficent work but a perusal of the annual report makes it only too obvious that the usefulness of the charity is sadly impaired by want of funds. The total number of in-patients during the year was 1866. Out of an aggregate number of 138 beds 68 were compelled to be unoccupied by reason of financial straits, so that there remained only 70 beds available for in-patients, and of these the average number occupied was 64. The new out-patients numbered 31,258 and the total number of attendances was 100,673. The year 1901 began with a financial deficiency of £2591 and the excess of expenditure over income during the ensuing 12 months amounted to £2577, making a total deficiency at the end of last December of £5169. It was, in fact, only by raising a loan of £5000 from the Charity Commissioners that the committee was able to keep the hospital open during the year. The grants from the three hospital funds for London amounted to £2067—namely, £623 10*s.* from the Hospital Sunday Fund, £193 10*s.* from the Hospital Saturday Fund, and £1250 from King Edward's Hospital Fund; the latter fund also contributed an additional sum of £900 as an annual grant to open 18 closed beds, on the condition that by the opening of these beds 18 more were made available for the sick poor. One of the most pressing difficulties of the hospital since its removal from its old site to the better one which it now occupies has been the question of local rates and the item of £948 charged under this heading in the expenditure seems to be disproportionately high, exceeding as it does the combined outlay for meat and grocery. The exemption of hospitals from local rates is a subject which has on various occasions been discussed in our columns, and the present case is undoubtedly one in which some such relief is urgently needed. In addition to a special appeal for further annual subscriptions the committee asks for donations to the Rent Fund, the interest of which is to be devoted towards meeting the ground rent of £1210 per annum.

THE Duke of Connaught has fixed Friday, June 20th, at 4 P.M., for the laying of the foundation-stone of the new buildings of Charing-Cross Hospital. His Royal Highness, as M.W. Grand Master of the United Grand Lodge of England, will perform the ceremony with full Masonic honours and will be attended by the officers of Grand Lodge.

MR. ALBAN H. G. DORAN has been appointed to deliver the Harveian Lectures for the Harveian Society next November and has chosen for his subject "Uterine Fibroids considered from a Clinical and Surgical Standpoint."

THE Princess Christian of Schleswig-Holstein will open the new home for the nurses in connexion with Friedenheim Hospital (Home of Peace for the Dying) on Saturday, June 7th.

AT Merthyr Tydvil police-court on May 12th the magistrates selected Mr. Cornelius Biddle, L.R.C.P. Lond., M.R.C.S. Eng., to be high constable of the town for the ensuing year.

OBSERVATIONS ON DIET.

BY HARRY CAMPBELL, M.D., F.R.C.P. LOND.,
PHYSICIAN TO THE NORTH-WEST LONDON HOSPITAL; PHYSICIAN TO THE WEST-END HOSPITAL FOR NERVOUS DISEASES, WELBECK-STREET, W.

II.—QUANTITY OF FOOD (*continued*).[1]

Excessive Dietary.

Inducements to over-eating.—Animals in a state of nature are little likely to over-eat—first, because their constant search after food entails a highly active life and this demands a correspondingly large supply of food; secondly, because their food, except in the case of the carnivora, is seldom in a highly concentrated form; and, finally, because it is of such a simple and monotonous kind that the appetite is appeased when a sufficiency has been consumed; so that, far from having a surfeit, most animals have as much as they can do to obtain the needful supply. Civilised man, on the other hand, is not only not compelled to lead a muscularly active life, often taking little or no exercise at all, but his food is highly concentrated, consisting largely of such articles as sugar, butter, cheese, and meat, and far from being monotonous it is of a varying kind, and in the case of the well-to-do is rendered appetising by the manifold resources of the culinary art. While, then, it is practically impossible for a wild animal habitually to over-eat the modern Human has many inducements to tempt him to excess and as a matter of fact he often yields to them. In this respect men are greater sinners than women.

Extreme instances of over-feeding.—Some remarkable instances of gourmandising have been placed on record, but how far they are legendary and how far genuine it is difficult to say. They are told chiefly of the inhabitants of cold climates. The Esquimaux, it is said, eat as much as 20 pounds of flesh and oil daily. We have it on the authority of Sir George Simpson that two Yakuti men ate at a sitting 36 pounds of beef and 18 pounds of butter each. He remarked that "after such surfeits the gluttons remain for three or four days in a state of stupor, neither eating nor drinking, and meanwhile are rolled about with a view to promoting digestion."

EVILS OF OVER-EATING.

Over-distension of the stomach.—One of the immediate effects of a surfeit is undue distension of the stomach which may not only cause organic dilatation of this organ but, by thrusting the diaphragm upwards, compress the lungs and dislocate the heart, disturbing its action even to the point in extreme cases of checking it altogether. Those with failing hearts or feeble breathing power should beware never to overload the stomach; their maxim should be "little and often." Meals that are few and far between are apt to be unduly bulky. When, for instance, only one meal is taken in the day the individual, especially if leading an active life, is compelled to consume at one sitting more food than the normal stomach can hold and dilatation is the necessary consequence. Moreover, this large mass of food makes such demands upon the digestive organs as to render the individual for the time being lethargic and inert. The one-meal plan also leads to wastage, for when a large quantity of food is taken at once and the blood is surcharged with nutriment much of it is, as already hinted, apt to be katabolised as so much useless excess in the hours immediately following the meal. It is a fact, however, that many races subsist on a single daily meal. This is the case with the majority of the natives of India and doubtless the system is suited to their requirements, though one would have thought that the bulkiness of their diet, which is mainly vegetarian, would constitute a serious objection to the custom.[2] But whatever may be true of certain of the inhabitants of warm climes the fact remains that the plan of taking but one meal a day is not suited to the average European. For him three meals during the 24 hours would appear to be on the whole the wisest arrangement.

A further word on the subject of over-distending the stomach. It has to be noted that a diet may cause undue distension of the stomach without being excessive—namely, by containing a large quantity of non-nutrient substances, as in the case of green vegetables, or by causing flatulence. Accordingly, when it is desirable to distend the stomach as little as possible we prescribe concentrated foods and such as are least likely to cause flatulence, and we forbid the drinking of large quantities of fluids with meals. It is now known that very little fluid is absorbed by the stomach, and consequently when liquid is taken at meal-time it has to wait for the food to be digested before it can escape into the duodenum, thus adding materially to the bulk of the gastric contents. Fluid taken with meals may also retard digestion by diluting the gastric juice, though it is doubtful whether much harm is done in this way. It is, moreover, often used as a means of softening the food and washing it down, and may thus do harm by encouraging the individual to shirk mastication. For these reasons liquids should for the most part be taken on an empty stomach, say half or three-quarters of an hour before meals, so as to give time for them to leave the stomach before food is eaten. Hence, too, the advantage of giving aperient salines on an empty stomach—e.g., the first thing in the morning.

Excessive storage of fat.—The most obvious evil result of chronic over-eating is obesity. In some cases obesity is a disease—e.g., in myxœdema and in certain obscure diseases of the nervous system in which there may be a phenomenal laying on of fat. I have seen two such cases in children. In the majority of instances, however, it is due to over-eating. We have seen that the amount of food required is governed by several circumstances, of which the most important is the amount of exercise taken, and as might be expected the obese person generally takes very little. Those who exercise their muscle system a great deal are but rarely obese; I do not remember ever to have seen a fat postman and a fat navvy is rarely met with. Let the fact then honestly be faced by the obese that except in those rare cases which are due to disease inordinate fatness is due to over-eating and should be met by apportioning the diet to the needs of the individual.

Evils in connexion with the Blood and Circulation.

The digestion of food imposes extra work on the heart by the increased activity of the splanchnic circulation which it entails, and when a large quantity of food is taken there is a substantial augmentation of cardiac action.[3] If, therefore, we are dealing with a case of grave cardiac failure where it is of paramount importance to save the heart as much as possible we see how imperative it is that we should administer food sparingly. An excess may, moreover, as we have seen, disturb the action of the heart both by distending the stomach and by inducing obesity. It may also affect it, as we shall see in due course, by increasing peripheral resistance and through its influence on respiration.

Plethora.—Just as starvation tends to impoverish the blood and to diminish its mass, so may over-feeding cause excessive richness of the blood, and perhaps also augmentation of its mass. Cohnheim denied the possibility of the latter, but, be this as it may, it is certain that the condition known as plethora, characterised by vascular turgescence of the face and often accompanied by a feeling of fulness in the head, giddiness, and other symptoms, all of which are relieved by bleeding, may result from chronic over-eating. Whether there is an actual augmentation of the blood-mass in these cases, or whether, as some think, the condition is rather one of arterial plethora due to high peripheral resistance with a powerfully acting heart, is a question which we need not stop to discuss.

Anæmia.—Curiously enough, over-eating may lead to the opposite condition, anæmia, not indeed to a diminution of the blood-mass (oligæmia), but certainly to a defective condition of the chromocytes. It is now known that these are very susceptible to the action of toxins which, as we shall see, are apt to abound in the chronic over-eater, and possibly the blood corpuscles suffer from their action. Certain it is that some patients improve in colour when their diet is cut down.

Evils in connexion with the Respiratory Function.

The influence of over-eating on respiration is not less important than is its influence on the circulation. The obesity which it so frequently causes seriously interferes with the respiratory movements. A distended stomach, moreover, thrusts the diaphragm upwards and thus restricts the

[1] No. I. was published in THE LANCET of May 24th, 1902, p. 1486.

[2] One may, perhaps, explain the ability of the Oriental to subsist on one meal a day by the fact that living as he does in a warm climate he requires less food than the inhabitant of colder climes, and by the further fact of his food consisting mainly of saccharide which admits of ready storage.

[3] Cohnheim gives hypertrophy of the heart as one of the results of gourmandising.

breathing area. Over-eating also affects respiration by its influence on the heart: by its stimulating action on the splanchnic circulation it stimulates the respiratory movements, and it may further augment these movements by disturbing the action of the heart and hindering the movement of the blood through the lungs. Respiration is affected by over-eating in yet another way, one which seems to have been overlooked: every particle of food which is absorbed and does not go to increase the weight of the body and is not eliminated unkatabolised, as sugar or albumin, has to be burnt off within the organism, and this very soon after absorption. Now this combustion of food requires oxygen and one of the products of combustion is carbonic acid. It follows from this that the larger the amount of food ingested and absorbed the larger is the demand for oxygen and the larger the quantity of carbonic acid produced—in other words, the greater the respiratory interchange and the more ample the respiratory movements. The application of these facts in the treatment of dyspnœa will be referred to in its proper place.

Evils due to Faulty Metabolism either in the Digestive Tract or in the Tissues.

Before discussing these it will be well to trace the career of the redundant food through the body. When a redundancy of food is taken an excess of nutritive ingredients is absorbed into the blood; some—e.g., albumin and sugar—may pass out by the kidneys unchanged, but, except in disease, this only occurs after large surfeits; some may be stored, but it is only in the case of fat that this takes place to any extent, the capacity of the organism to store proteid and saccharide being very limited; in many individuals even the fat-storing capacity is small; in all the limit is reached sooner or later. It is, therefore, evident that dealing with individuals in the aggregate only a small proportion of the total excess of absorbed food is stored.

What then becomes of the excess which is neither stored nor passed out of the body unchanged? The reply is, it is katabolised—i.e., the organism is put to the profitless task of burning off the excess of fuel with which the body fluids are charged, the fats and saccharides being converted into carbonic acid and water and the proteids into these and likewise into urea, uric acid, kreatin, and allied compounds. This extra katabolism takes place chiefly in the muscles.

Does it not seem strange that the organism should be put to all this labour? Theoretically the most perfect arrangement would be for just so much food to be absorbed from the alimentary tract as is needed, but, though when an excess of food is ingested absorption is less complete than with a bare sufficiency, far more than the needful quantity is nevertheless absorbed. It is not surprising that the organism should possess some capacity for absorbing nutriment beyond the needs of the moment. All animals are liable to experience seasons of dearth, and it is of advantage that they should be able in times of plenty to absorb food beyond present requirements, and so store up supplies for future contingencies. It is, however, not so easy to explain why after this provision has been made the capacity to absorb an excess of food should still continue. Nature has apparently made no provision against a chronic *embarras de richesses* in the matter of food; and instead of altogether refusing to absorb a quantity of nutriment in excess of present and future needs, or, after having absorbed it, simply running it out unchanged, she goes through all the labour, not only of absorbing, but of katabolising the redundancy.

We may perhaps explain this apparent anomaly by the fact, already referred to, that under primitive conditions animal organisms are little liable habitually to over-eat. But whatever the explanation may be, certain it is that the animal organism is not only capable of absorbing a redundancy of nutriment, but, having done so, goes through the laborious process of katabolising it. This stands out as one of the most remarkable facts in the physiology of nutrition. For observe what this redundant katabolism implies. We are apt to lose sight of the fact that every katabolic change is attended by an unlocking of energy; hence redundant katabolism implies a wasteful expenditure of energy. What form does this surplus energy assume? The reply is that it takes the form of heat. All, or practically all, the energy of the organism manifests itself either as work or as heat, most of the former being converted into the latter within the body and passing off from it as such; thus all the "internal work" (movement of the heart, &c.) of the body is converted into heat and when a person is resting the whole of the energy unlocked by katabolism is dissipated in this way. From this it follows that all the energy set free by the redundant katabolism resulting from over-eating leaves the body as heat[4] and that the larger the amount of food absorbed the greater is the amount of heat given out. Gourmands, therefore, must emit more heat than spare-eaters and this involves either scantier clothing or increased evaporation from the skin and lungs. As a matter of fact big eaters are generally big sweaters.

There is yet another aspect from which we may view this superabundant katabolism with its corresponding evolution of energy. Just as chronic starvation leads to lack of energy, producing listlessness and apathy—Mr. Bumble, it will be remembered, well knew that the half-starved inmates of his union had *little stomach* for fighting—so, conversely, chronic over-eating is apt to cause trouble by leading to an undue accumulation and evolution of energy in the body, and in such cases the surplus energy may seek outlets in abnormal ways, such as in fits of irascibility and hysterical convulsions. The desire of the irascible man to break the furniture and of the hysterical woman to scream and rush wildly about must surely be exaggerated by the storage of an excess of energy in the body. I do not want to over-estimate this as an exciting factor—other factors, such as toxæmia, play their part—but it must certainly be conceded that surplus energy is apt to find an abnormal outlet. If a well-fed horse is not taken out to exercise he will kick his stable down and over-fed prisoners may, by the very fact of their being over-fed, be incited to insubordination. These considerations suggest that when an individual has a tendency to convulsive seizures we must be careful to keep his diet within due bounds.

We have now to inquire whether the redundant katabolism of the large eater is the same in kind as the katabolism which is not redundant.

There are strong grounds for assuming that when a large excess of fuel has to be katabolised the end-products are not quite the same as when only a sufficiency is taken. The excess is in the main katabolised by the muscles while in a state of quiescence; it is not, i.e., worked off in the katabolism which issues in muscle contraction. Whatever fuel is thus katabolised does not constitute part of the excess, inasmuch as it is used up in the performance of a normal function to which it is essential. Now, it is probable that the waste products of a muscle at rest are not altogether the same as those of a contracting muscle; possibly they are not so completely oxidised and they would appear to be more toxic in character; hence, the absorption of an excess of food not only leads to the production of an excess of poisons, but of poisons more than usually toxic. And this brings me to another point.

Evils due to Toxæmia.

There can be no doubt that the most serious results of over-eating are brought about by blood-poisoning or, as we now call it, "toxæmia." The extra katabolism which over-eating induces leads to an excess of poisonous waste-products, and it is probable, as we have just seen, that many of these are more toxic than are those which are formed when the food is kept within normal limits. Over-eating further tends to cause toxæmia by setting up indigestion. There is no sharp dividing line between normal digestion and indigestion; as with all other functions there are innumerable grades of efficiency,[5] and it goes without saying that digestion is more likely to reach a high grade of efficiency when a mere sufficiency of food is taken than when the quantity is excessive. Now the more efficient the powers of digestion the fewer are the poisons produced in the alimentary tract and the less their absorption into the blood. It is, therefore, manifest, and I cannot too strongly insist on the fact, that if we desire to keep down the toxicity of the blood we should zealously guard against excesses in eating.

The toxæmia of over-eating induces a multitude of evils, the chief of which we now proceed to consider.

Inflammation.—If not the sole, certainly by far the most potent, cause of inflammation is chemical irritation. It is difficult to point to a single instance of inflammation in which this factor can be eliminated from causation. We

[4] The energy leaving the body as work cannot be regarded as redundant.

[5] See the writer's paper, "On the Gradations of Health and Disease," St. Bartholomew's Hospital Reports, vol. xxx., p. 156.

now know that the most violent mechanical injury, such as the cut of the surgeon's knife, does not cause it in the absence of pathogenic micro-organisms, and, further, that the inflammation due to micro-organisms is wrought by the toxins which these emit. Probably most cases of inflammation are due to toxins thus arising. In other cases the toxins causing inflammation are furnished by tissue metabolism, as in the pleurisy and pericarditis of Bright's disease, or they may be introduced as such into the body, as in the case of corrosive, alcoholic, and arsenical poisoning. When we total up all the cases of inflammation induced in one or other of these ways we find that for all practical purposes we have exhausted the list.

Gastritis and *enteritis* may be placed first among the many toxic inflammations due to over-eating. Over-eating by disturbing digestion leads to an undue formation of toxins, which by their direct action set up inflammation in the lining membrane of the alimentary tract. A familiar instance of inflammation thus induced is the condition known as consumption of the bowels met with among children, especially the children of the poor in large towns. It is essentially a toxic enteritis, and, though it results from errors in the quality rather than in the quantity of food I mention it here as it admirably illustrates some of the worst toxic evils resulting from dietetic errors. We are all familiar with these cases; the abdomen is large and flatulent and the motions are slimy, malodorous, and, it may be, bloody. Examine a child who has been suffering for some time in this way and we shall soon satisfy ourselves that his general condition is as much due to toxæmia as to starvation; sufficient food may be absorbed, but nutrition is perverted by the action of irritant poisons. The child is ill-grown and anæmic; the skin is thin, the eyelashes are long and silky, and the complexion is often wondrously like that observed in empyæma, in which disease there can be no doubt about its being due to toxæmia, disappearing as it does as if by magic upon evacuation of the pus. Treves in his work on Struma contends that the majority of the children presenting the so-called strumous diathesis are not the victims of a specific congenital habit but are simply delicate. With this view I entirely agree, and I make bold to add that the delicacy in these cases is essentially an acquired condition, the result in the main of defective feeding leading to toxæmia. If we give a child plenty of sunlight and fresh air, which tend to keep the body generally and the digestive organs in particular, in a healthy state, and feed it on a diet which is correct as to quality but insufficient in quantity, we shall tend to get starvation, pure and simple, without toxæmia, but the condition in this case is very different from that with which we are so familiar as occurring in consequence of a dietary which induces a high degree of toxæmia.[6] I have referred to these cases of enteritis because they show how grave and extensive are the evils which may result from toxæmia induced by dietetic errors.

Let us now revert to the toxæmia caused by gluttony. This may set up inflammation in any part of the body, either directly, or indirectly by lowering the resistance of the tissues to bacterial invasion. In gouty bronchitis, or the bronchitis of children suffering from consumption of the bowels, the toxic action is direct. As an instance of indirect action tuberculous inflammation may be cited. We have seen that the strumous diathesis may result from alimentary toxæmia which causes a diminished resistance on the part of the tissues to the attack of the tubercle bacillus, and I have little doubt that mercury which has long been known to be useful in struma does good by combating intestinal toxis. A more striking instance of the indirect action of such toxis in promoting inflammation is shown by its effect on suppuration, now known to be due to the action of specific (pyogenic) cocci. One of the first things to be done in all cases of actual or threatening suppuration—e.g., mammary abscess or stye in the eye, is to administer a purge; and, indeed, it may be said that in all inflammations one of our chief aims should be to diminish gastric and intestinal toxis.

Toxæmic inflammations are, of course, most frequent where the toxins are most abundant and, as we should expect, the poisons are most abundantly met with in the organs of elimination, whither they speed in their effort to escape from the body. This they do by all the surfaces communicating with the exterior. We are too much in the habit of thinking of the poisons as being eliminated almost exclusively by the skin and kidneys, but the fact is they get out wherever they can—by the skin, the kidneys, and the mucous lining of the alimentary, respiratory, and genito-urinary tracts. We know that drugs may be eliminated from all these regions and the same is true of the toxins of disease. We are all familiar with laryngitis, bronchitis, nephritis, cystitis, urethritis, gastritis, and dermatitis, of gouty origin, and we recognise that they are produced by the poisons of gout, but do we sufficiently realise that there are multitudinous other poisons capable of exciting similar inflammations? Here I may refer to the fact that when once inflammation has been excited by toxins it tends to persist apparently after the toxins have been eliminated, the inflamed areas thenceforth appearing to possess a peculiar attraction for the toxins. How otherwise are we to explain such a case as the following? A man who for years had suffered on and off from arthritic gout suddenly developed bronchitis; thereafter his arthritis disappeared once for all, while the bronchitis continued on and off till his death. The presumption is that the gouty poisons set up bronchitis and that the inflamed bronchial surface thenceforth attracted the poisons which found a ready exit in the abundant bronchial secretion, thus relieving the arthritic phenomena.

Cardio-vascular disturbances.—The toxæmia of over-eating may produce functional disturbances in the heart and arteries, such as palpitation and vaso-motor irregularities, but the chief way in which it affects the cardio-vascular system is by increasing peripheral resistance. This it does by constricting the systemic arterioles, apparently with the object of increasing the urinary flow so as to relieve the toxæmia, the intra-renal arterioles remaining in all probability dilated.[7] As a result the pressure rises in the systemic arterioles, the whole systemic arterial tree, together with the left side of the heart, being subjected to increased strain which eventuates in thickening and degeneration of both. Thus it comes about that the cardio-vascular system wears out sooner in the gourmand than in the spare feeder. Many are the dangers which beset the path of the habitual gourmand, but perhaps the greatest are those pertaining to the cardio-vascular system: he often dies from a prematurely worn-out heart or from the rupture of a miliary aneurysm.

Degenerations.—The toxæmia of over-eating may lead to degeneration in connexion with the inflammations and cardio-vascular changes just considered. It may also induce degenerations apart from these: the constant soakage of the tissues with toxins injures the delicate protoplasm, which thus tends to degenerate prematurely, its place being taken by fibrous tissue. Thus over-eating materially hastens that fibroid encroachment which is a natural senile change. As we should expect, the liver and the kidneys are especially apt to suffer; chronic over-eating causes chronic engorgement of the former organ and imposes upon it an amount of work far in excess of its powers; it also increases the work of the kidneys and exposes them to constant irritation by the toxins which are perpetually passing out through them.

Gout.—Over-eating is one of the chief causes of gout which is essentially a toxæmia. My own impression is that this disease originates in the digestive viscera and that uric acid is not the essential poison at work in it; but, be this as it may, it is certain that errors of diet play an important part in its causation. These errors do not merely pertain to kind, but to quantity. We are too much in the habit of simply telling our patients to avoid this and that without insisting upon the importance of keeping the total quantity of food within proper limits.

Nervous disorders.—The toxæmia of over-eating may set up a variety of nervous disturbances, such as headache, giddiness, tinnitus, irritability, depression, drowsiness, lassitude, numbness, flushings, pains about the body, weakness, or even partial paralysis of muscles; while neuroses of all kinds—epilepsy, angina pectoris, asthma, &c.—tend to be aggravated by it.

Age in relation to Over-eating.

We have next to consider the effects of over-eating as influenced by age, for, as hinted earlier, the element of age comes in here and has an important bearing on the issue. In youth there is greater capacity to deal with excess of food than in old age; the organs of digestion and excretion are then most vigorous and metabolism generally is most active, the vital fire burning fiercely, so to say, while the restless activity of the muscle system not only diminishes the likelihood

[6] It seems to me that rickets is essentially a toxæmia of gastro-intestinal origin.

[7] See letter written by the writer to THE LANCET, June 8th, 1901, p. 1627.

of chronic excess, but also helps to mitigate its evils. In old age, on the other hand, there is a growing tendency to quiescence of the muscle system, side by side with a waning in digestive and excretory vigour and an increasing sluggishness of metabolism generally, the vital fire no longer blazing, but glowing and flickering rather and standing in danger of being extinguished altogether by the accumulation of its ashes. Yet at this very time we may find the individual more than ever addicted to the pleasures of the table and with an appetite and capacity for enjoying food altogether in excess of his requirements, being ever lured to his destruction. I am by no means certain that the use of artificial teeth by the old is an unmixed blessing. It may do harm by encouraging them to eat more food than is good for them and of a kind unsuited to their years. It is noticeable that almost all the old people who live to a great age in country villages—and it is here they reach the greatest age—rely on their toothless gums, and the absence of teeth in the very old may possibly be an indication to a return to the more simple diet of childhood.

We see, then, that the evils of over-eating are greatly influenced by age. During the period of growth, with a reservation to be considered directly, and even during early adult life, they are comparatively insignificant; it is in middle life that they generally begin to show obtrusively, thereafter becoming more and more insistent with every advancing year. We may sometimes see an old man of sedentary habit—old women less frequently err in this respect—whose appetite and enjoyment of food survive amid the general decay of his physical powers, loading his poor old stomach with the same quantity of food and alcohol as he consumed in the heyday of his active manhood, and expecting his stomach, liver, and kidneys, after some three score or more years of overwork, to achieve the same metabolic feats as in their prime; and generally with this result, that he is a curse to himself as well as to those around him. It is true that some can eat abundantly into extreme old age without much apparent harm, but such cases are exceptional. Almost all of Humphry's centenarians were moderate eaters; he tells us that the great proportion of old people are reported "to have been moderate or small eaters, to have taken little alcohol, and commonly not much meat."[8] I cannot too emphatically impress upon my readers the desirability—nay, the necessity—of keeping the aged on a spare diet. Do not let us extinguish the flickering fire of age by piling on too much fuel.

I have said that with one reservation the young are little liable to suffer seriously from chronic over-feeding. The exception is in the case of infants. I have been long convinced that they are often greatly over-fed, and quite recently Dr. Eric Pritchard has contributed a valuable paper dealing with this important subject. I believe that infants in this country suffer much more from an excess than from a deficiency of food. In the first place the food given them is in a highly concentrated form, consisting of almost pure proteid, starch, and sugar, with very little unabsorbable material; and it is, moreover, administered in a liquid or pappy form which allows it to pass with a fatal facility into the stomach. The modern infant is often in fact, much in the position of the far-famed Strasburg goose. At a period of life when it is a stationary animal and prevented from working off an excessive dietary by abundant muscular activity (which same activity is but too often still further limited by unsuitable clothing) its digestive organs are burdened with an excess of highly concentrated foods, with results most disastrous to the helpless victim.

THE MEDICAL, SURGICAL, AND HYGIENIC EXHIBITION.

(*Concluded from p. 1492.*)

CHEMISTS and druggists were not so largely represented this year in the Queen's Hall exhibition as on previous occasions and several of those exhibiting presented many articles besides drugs for inspection. Many interesting specimens were on view on the stall of Messrs. Cooper and Company, of 80, Gloucester-road, South Kensington, S.W. The aerated mineral waters containing both oxygen and carbonic acid gas are worthy of special mention. Great pains, as we have shown, are taken to secure the purity of these waters, special apparatus for the distillation of water being devoted to the purpose. Lithia, piperazin, magnesia, and urotropin are amongst the special drugs to be obtained dissolved in "oxycarbonated" water. The exhibit included also some neat cachets for inclosing drugs. Mr. W. Martindale, of 10, New Cavendish-street, W., showed a number of useful analytical appliances for clinical purposes besides a great number of medical preparations and special drugs. Ovo lethicin in the form of pills, confection, and injection was exhibited by Billon's Ovo Lethicin Company, of 16, Water-lane, Great Tower-street, E.C. As we have already pointed out, ovo lethicin has been administered with encouraging results in debilitated conditions. Hommel's hæmatogen we have dealt with in our analytical columns in which we pointed out that it contained pure hæmoglobin with the entire unaltered salts of the blood plasma. The preparation was exhibited by Messrs. Nicolay, of 36 and 36a, Saint Andrew's-hill, E.C. Messrs. Coxeter and Company, of 4 and 6, Grafton-street, Gower-street, W.C., showed apparatus for the production of anæsthesia by nitrous oxide gas, ether, and chloroform with special accessories. The exhibit included apparatus for the administration of oxygen and an ozone generator. Specimens of "iron milk," upon which we have quite recently reported in our analytical columns, were shown by the British Iron Milk Syndicate, Limited, of Savoy House, 115 and 116, Strand, W.C. Iron milk is a liquid containing pyrophosphate of iron in suspension. Messrs. Arthur and Company, of 69, Berners-street, W., exhibited a number of special preparations which we have noticed on previous occasions. The double salt of gold and arsenic known as "bromaurum" made by this firm is well known. Messrs. Rebman, Limited, of 129, Shaftesbury-avenue, W.C., besides medical publications, exhibited serum preparations and glycerinated calf lymph. The stall of Messrs. F. Newbery and Sons, of 27 and 28, Charterhouse-square, E.C., was well stocked with a number of special pharmaceutical preparations. Amongst these were a useful series of granular effervescent salts and the special preparations of Messrs. W. R. Warner and Company.

The food section was largely comprised of milk and milk products. The Aylesbury Dairy Company, of St. Petersburgh-place, Bayswater, W., exhibited a number of interesting preparations, including humanised milk, sterilised milk and cream, and milk specially adapted for the needs of the young child. Similar preparations were exhibited by Messrs. Welford and Sons, of Elgin-avenue, Maida Vale, W., who make a speciality of asses' milk. Concentrated milk was the subject of exhibition by several well-known firms, such as the Anglo-Swiss Milk Company, of 10, Mark-lane, E.C., and Mr. Henry Nestlé, of 48, Cannon-street, E.C., the latter exhibiting also a special food for infants.

The best example of a food prepared from milk is plasmon, which contains the physiologically unaltered proteid of milk. Its nutritive value is well known. Many food preparations containing plasmon were also shown on the stall of this company (International Plasmon, Limited, 56, Duke-street, Grosvenor-square, W.). Messrs. Cosenza and Company, of 95, Wigmore-street, Cavendish-square, W., exhibited the well-known Maggi soup cartridges for the use of troops, the exhibit including also a consommé and a tonic bouillon. Peptenzyme in many forms containing the digestive secretions of the digestive glands was the feature of the exhibit of the Peptenzyme Company, Limited, 80, Gloucester-road, South Kensington, S.W., but they also exhibited zymocide, described as a non-poisonous antiseptic for surgical and general use. "Marvis" is one of the best examples of a dried fish food. It makes a good nourishing soup and is prepared by the Marvis Company, of 7, Eastcheap, E.C. Protene was amongst the first preparations of milk proteid made and it has been used with advantage as a food and for raising the nitrogenous content of farinaceous foods; the preparation was exhibited by the Protene Company, Limited, of 36, Welbeck-street, W. Meat preparations were represented in great number and variety on the stall of Bovril Limited, of 152 to 166, Old-street, City-road, E.C., while Messrs. G. Nelson, Dale, and Company, of 14, Dowgate-hill, E.C., exhibited their now well-known mutton essence called "hipi," the New Zealand native word for sheep, pronounced "heapy." The Liebig Extract of Meat Company, Limited, of 9, Fenchurch-avenue, E.C., exhibited Lemco, a highly-concentrated beef preparation, and Oxo, representing both the nutrient and stimulating properties of beef. The Hovis

[8] Old Age, George Murray Humphry, M.D., F.R.S., 1889, p. 14. See also p. 51 for some striking observations on the same subject.

Bread Flour Company, Limited, of Macclesfield, exhibited their recently-introduced foods for infants and invalids. We have so recently described these foods in our analytical columns that we need offer no further remark. Special foods for diabetic patients and for use also in obesity were exhibited by Messrs. Callard and Company, of 65, Regent-street, W., and the Myosin Albumin Meat Extract Company, of 107, Strand, W.C., submitted their preparations containing a very high proportion of pure myosin albumin which is, of course, highly nutritious.

There was a fair display of surgical and hospital appliances, amongst those exhibiting being Messrs. Maw, Son, and Sons, of 7 to 12, Aldersgate-street, E.C.; the Holborn Surgical Instrument Company, of 117, Holborn, E.C.; Messrs. Maple and Company of Tottenham Court-road, W.; Messrs. Wodderspoon and Company, of Gate-street, Lincoln's Inn Fields, W.C. (temperature and other charts); Mr. W. K. Stacy, of 19, Newgate-street, E.C. (nurses' instruments); Messrs. F. Davidson and Company, of 140, Great Portland-street, W. (sight-testing apparatus); and in this category might be included the natural shaped boots of Mr. Thomas Holland of 40, South Audley-street, Grosvenor-square, W. These boots are so made as to prevent the inner and outer lines of the soles from converging to a point beyond the space between the second and third toes. Thus the boots, while not ugly in appearance, are adapted to the natural shape and lines of the feet.

ERRATUM.—The "eucryl" preparations described in our article last week were exhibited by Eucryl, Limited, and not by Messrs. Major as stated.

THE MEDICAL SICKNESS, ANNUITY, AND LIFE ASSURANCE FRIENDLY SOCIETY.

THE nineteenth annual meeting of this society was held at 11, Chandos-street, London, W., on May 15th, under the presidency of Dr. F. DE HAVILLAND HALL, chairman of the Executive Committee.

Dr. HALL, in his remarks, said that, as on previous occasions, they had an excellent report to give to the members. The new business had been exceedingly good; they had had 133 proposals, against 114 in the previous year, and there had been 28 proposals for additional benefits, against 22. Though their members had increased he was thankful to say that the sickness claims had been less than in the previous year—£7829 10s., as against £8250. In the annuity fund there was a small increase and a small decrease in the life assurance fund. As the members were aware, the society was doing no further business in these two branches, but the Rock Life Assurance Company allowed a rebate of 5 per cent. to members of the society who effected assurances with them. He thought that taking out in this or some other life assurance company an annuity payable at the age of 65 years was a preferable way of meeting a difficulty rather than extending their sickness limit beyond the age of 65 years, as had been suggested: an annuity payable at 65 years of age would be a certainty, whereas sickness allowances after that age must necessarily be altogether uncertain. The economy of management of the society still continued. During the past year the management expenses had been less than 5 per cent of the premium income, as against 10 per cent. which was allowed by the rules. They had put by over £1000 to the management reserve fund and they had made the large increase of £1346 4s. 6d. in their investment reserve fund which now stood at £7979 9s. 3d. The total funds of the society had also grown considerably—viz., from £143,552 11s. 3d. to £154,353 17s. 3d., an increase during the past 12 months of upwards of £10,000. The votes of the society in connexion with the Royal Medical Benevolent College had this year been given to Gerald MacNaught, the son of a deceased member, and from the position which the boy held at the last election he (the Chairman) hoped that the votes would ensure his election into the school at Epsom on this occasion. He had great pleasure in announcing that Sir William Church, President of the Royal College of Physicians of London, had consented to act as arbitrator should they elect him. The record of committee attendances would show how well the affairs of the society were looked after by the members of the committee, and he thought that it would be impossible to get a body of men to work more harmoniously than they had done. In Mr. Harber, who, he was glad to see, was present that afternoon, they had an excellent man of business, and he felt that as long as he audited the accounts the financial condition of the society would be well looked after, and, lastly, he would like to express on behalf of the committee its high appreciation of the manner in which the secretarial work had been done.

A motion, proposed by Mr. R. J. BRYDEN, seconded by Dr. N. BATEMAN, that the report of the Committee and the audited accounts for the year ending Dec. 31st, 1901, be received and adopted, was carried.

The officers for the ensuing year were then elected.

Dr. ST. C. B. SHADWELL said that before they concluded their meeting he should like to propose a vote of thanks to the chairman for the way in which he had conducted the affairs of the society. As a member of the Executive Committee for one year he had had the pleasure of seeing the way in which Dr. Hall had conducted the business at their monthly meetings, and he was sure that every member of the society must feel much obliged to Dr. Hall for what he had done and be pleased on that occasion to express their confidence in him and to thank him for the trouble which he had taken.—Mr. J. BRINDLEY JAMES, in seconding the motion, spoke of the valuable help and assistance which Dr. Hall had rendered to the society.

The motion was carried with acclamation.

Dr. HALL said that he was obliged for their kind expression of opinion. As he had said in his opening remarks, it would be impossible for a committee to work together more harmoniously than that committee had done; its members had sometimes come to a division but they had always agreed on the line to be pursued. He could only hope that in the future, as in the past, they might continue to work together in the same pleasant manner. He was much obliged to them for re-electing him again as the chairman.

Looking Back.

FROM

THE LANCET, *SATURDAY, MAY 29*, 1824.

IT is stated that "heat is the *lightest body* known; therefore it always has a tendency to ascend." We would rather say that *heated particles* of any matter whether of a solid, liquid, or æriform become specifically lighter by expansion, and therefore will rise when heated in a medium consisting of particles of similar specific gravities with themselves; as for instance, when some of the particles of water are warmed in a medium of similar particles, these heated particles will rise through those that are not so; and thus we find that hot water always rises to the surface of a vessel of cold. The particles of air which are heated in the atmosphere, always ascend and fly upwards, because they are expanded by the heat, and therefore rendered lighter than those around them, but if atmospheric air be heated and thrown into a volume of hydrogen gas, they will not rise, nor will the "heat ascend": simply because the heated particles of atmospheric air remain still specifically heavier than the hydrogen gas. So also, notwithstanding hot water rises to the surface of cold, yet it will not rise through the atmosphere, unless, indeed it be so far expanded as to be converted into steam or vapour, in which case it is found to be specifically lighter. We may fairly conclude that in every case where heat appears to ascend, that it is not a property of heat itself, or the levity of its nature, but that it simply expands either the particles of some liquid, or air, which become specifically lighter than they were before, therefore rise upwards and carry the heat which they have acquired along with them; therefore, instead of saying that "heat is the lightest body known," we may with more propriety observe that heated particles of common matter are lighter than cold ones.

We are particular in exposing these errors, because they mislead the followers of truth and injure the true interests of science by impressing false notions on the mind, which are carried with all their baneful effects into every inquiry,

and prejudice, as we every day see, even the results of experiments themselves.[1]

ROYAL ACADEMY OF MEDICINE AT PARIS.

Sitting of the 25th of February.—M. RULLIER presented to the Academy a stomach from the internal surface of which, twenty-four fungi projected. These excrescences existed in the mucous membrane, and were formed out of it.

The Secretary read, in the name of M. JULIAN FONTENELLE, the case of an individual who had only one kidney. Occupying its usual situation, this kidney was five times larger than in the healthy state.

Sitting of the 26th.—M. RICHERAND occupied the time of the meeting with an account of an operation for strangulated femoral hernia, in which he had an opportunity of proving the excellence of the instrument commonly called COOPER'S hernia knife, although the president of the meeting M. DUBOIS had publicly used it fifteen years before the English surgeon published a description of it.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN 76 of the largest English towns 7474 births and 4757 deaths were registered during the week ending May 24th. The annual rate of mortality in these towns, which had been 17·2 and 17·3 per 1000 in the two preceding weeks, declined again to 16·7 per 1000 last week. In London the death-rate was 16·4 per 1000, while it averaged 16·8 in the 75 other large towns. The lowest death-rates in these towns were 8·2 in Smethwick, 9·1 in Croydon, 9·2 in Reading, 9·5 in East Ham, 10·3 in Walthamstow, 11·2 in Rotherham, 11·3 in Bootle, and 11·4 in Newport (Mon.); the highest rates were 22·1 in Gateshead, 22·5 in Hanley, 23·0 in Liverpool, 23·9 in Burnley, 24·1 in Barrow-in-Furness, 24·2 in Rochdale, 24·4 in Merthyr Tydfil, and 26·4 in Oldham. The 4757 deaths in these towns last week included 531 which were referred to the principal zymotic diseases, against 489, 519, and 516 in the three preceding weeks; of these 531 deaths 157 resulted from measles, 119 from whooping-cough, 66 from diphtheria, 56 from diarrhœa, 51 from scarlet fever, 47 from small-pox, and 35 from "fever" (principally enteric). In Croydon, Willesden, Brighton, Devonport, and six other smaller towns no death from any of these diseases was recorded last week; while they caused the highest death-rate in Tottenham, Liverpool, Wigan, Burnley, Barrow-in-Furness, Bradford, and Tynemouth. The greatest proportional mortality from measles occurred in Bournemouth, Southampton, Plymouth, Grimsby, Oldham, Barrow-in-Furness, Bradford, and Rhondda; from scarlet fever in Walsall, Aston Manor, and Bolton; from whooping-cough in Liverpool, Bootle, Barrow-in-Furness, South Shields, and Tynemouth; from "fever" in East Ham; and from diarrhœa in Wigan. The mortality from diphtheria showed no marked excess in any of the large towns. 47 fatal cases of small-pox belonging to these towns were registered last week, of which 24 belonged to London, eight to Tottenham, eight to West Ham, two to East Ham, two to Swansea, and one each to Leyton, Birmingham, and Tynemouth. There were 1344 cases of small-pox under treatment in the Metropolitan Asylums hospitals on Saturday, May 24th, against 1442, 1419, and 1360 on the three preceding Saturdays; 307 new cases were admitted last week, against 250, 248, and 233 in the three preceding weeks. The number of scarlet fever patients in these hospitals and in the London Fever Hospital, which had been 2222, 2212, and 2207 at the end of the three preceding weeks, had risen again to 2236 at the end of last week; 280 new cases were admitted during the week, against 258, 256, and 270 in the three preceding weeks. The deaths referred to diseases of the respiratory organs in London, which had been 240, 231, and 216 in the three preceding weeks, rose again last week to 237, but were 11 below the corrected average number. The causes of 54, or 1·2 per cent., of the deaths in the 76 towns last week were not certified, either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Nottingham, Bolton, Bradford, Leeds, Hull, and in 46 other smaller towns; the largest proportions of uncertified deaths were registered in Aston Manor, Liverpool, St. Helens, Warrington, and South Shields.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in the eight Scotch towns, which had been 18·1 and 19·4 per 1000 in the two preceding weeks, further increase to 20·3 per 1000 during the week ending May 24th, and showed an excess of 3·6 per 1000 over the mean rate during the same period in the 76 large English towns. The rates in the eight Scotch towns ranged from 9·3 in Leith and 14·1 in Perth to 22·4 in Paisley and 22·5 in Glasgow. The 656 deaths in these towns included 16 which were referred to measles, 14 to whooping-cough, 14 to diarrhœa, six to scarlet fever, three to "fever," one to small-pox, and one to diphtheria. In all 55 deaths resulted from these principal zymotic diseases last week, against 46 and 74 in the two preceding weeks. These 55 deaths were equal to an annual rate of 1·7 per 1000, which was slightly below the mean rate last week from the same diseases in the 76 large English towns. The fatal cases of measles, which had been nine and 21 in the two preceding weeks, declined again last week to 16, of which five occurred in Edinburgh, three in Dundee, three in Paisley, three in Perth, and two in Glasgow. The deaths from whooping-cough, which had been 16 and 25 in the two preceding weeks, decreased again to 16 last week and included five in Glasgow, five in Aberdeen, and two in Dundee. The fatal cases of diarrhœa, which had been 23, 13, and 19 in the three preceding weeks, declined again last week to 14, of which seven were registered in Glasgow, three in Aberdeen, and three in Greenock. The deaths from scarlet fever, which had been two, four, and one in the three preceding weeks, rose again to six last week, and included three in Glasgow, where the fatal cases of small-pox also was registered. The deaths referred to diseases of the respiratory organs in these towns, which had been 113 and 114 in the two preceding weeks, further increased last week to 156, and were 55 above the number in the corresponding period of last year. The causes of 21, or more than 3 per cent., of the deaths registered in these eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had been 22·6 and 24·8 per 1000 in the two preceding weeks, declined again to 19·1 per 1000 during the week ending May 24th. During the past four weeks the death-rate has averaged 22·9 per 1000, the rates during the same period being 16·2 in London and 17·2 in Edinburgh. The 139 deaths of persons belonging to Dublin registered during the week under notice were 41 below the number in the preceding week and included six which were referred to the principal zymotic diseases, against nine, 12, and 13 in the three preceding weeks; of these, two resulted from measles, two from scarlet fever, one from "fever," and one from diarrhœa. These six deaths were equal to an annual rate of 0·8 per 1000, the zymotic death-rates during the same period being 1·9 in London and 1·1 in Edinburgh. The fatal cases of measles, which had been three, six, and three in the three preceding weeks, declined to two last week. The mortality from scarlet fever was slightly in excess of that recorded in recent weeks. The 139 deaths in Dublin last week included 25 of children under one year of age and 38 of persons aged upwards of 60 years; the deaths of infants slightly exceeded the numbers in the preceding week, while those of elderly persons showed a slight decline. Four inquest cases and four deaths from violence were registered; and 62, or nearly one-half, of the deaths occurred in public institutions. The causes of six, or more than 4 per cent., of the deaths registered in Dublin last week were not certified.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

THE following appointments are notified:—Fleet Surgeon A. Kidd to the *Collingwood*. Staff Surgeons: H. E. South to the *London*; E. P. Mourilyan to the *Retribution*; H. Elliott to the *Severn*; A. Maclean to the *Penguin*; and R. Hill to the *Tribune*. Surgeons: E. F. Power to the *Pactolus*; H. W. B. Shewell to the *Surprise*; and H. C. Adams to the *London*.

ARMY MEDICAL STAFF.

Surgeon-General Alexander F. Preston, K.H.P., is placed on retired pay. Dated April 23rd, 1902.

[1] Some editorial observations expressing dissent from the then existing theory of heat.

Lieutenant-Colonel J. E. Fishbourne is appointed to the medical charge of the Military Prison at Woking.

ROYAL ARMY MEDICAL CORPS.

Colonel W. Donovan, C.B., now in South Africa, is appointed Principal Medical Officer at Hong-Kong.

Lieutenant Craig is appointed for duty in the North-Western District, and Lieutenant Cotterell to Bulford Camp, Salisbury Plain.

ROYAL ARMY MEDICAL CORPS (MILITIA).

Surgeon-Lieutenant Herbert Fox, from the 2nd Hampshire Royal Garrison Artillery (Volunteers), to be Lieutenant, and to be seconded for service in South Africa.

ROYAL ARMY MEDICAL CORPS (VOLUNTEERS).

The Manchester Companies: Lieutenant C. E. Preston resigns his commission.

VOLUNTEER CORPS.

Royal Garrison Artillery (Volunteers): 1st Cheshire and Carnarvonshire: The undermentioned Surgeon-Captains to be Surgeon-Majors: A. M. Archer and R. L. Jones. 1st Hampshire: Surgeon-Lieutenant E. N. Close to be Surgeon-Captain.

Rifle: 1st (Hertfordshire) Volunteer Battalion the Bedfordshire Regiment: Surgeon-Lieutenant J. E. B. Wells to be Surgeon-Captain. 2nd Volunteer Battalion (the Prince Albert's Somersetshire Light Infantry): Surgeon-Lieutenant W. Thompson to be Surgeon-Captain. 3rd Volunteer Battalion the Gloucestershire Regiment: Charles Robert Browne to be Surgeon-Lieutenant. 1st Volunteer Battalion the King's Own (Yorkshire Light Infantry): Surgeon-Captain E. Lee to be Surgeon-Major. 2nd Volunteer Battalion the Manchester Regiment: Surgeon-Lieutenant J. Ratcliff Gaylard resigns his commission. 19th Middlesex (St. Giles's and St. George's, Bloomsbury): The undermentioned Surgeon-Lieutenants to be Supernumerary whilst serving with the Bearer Company of the 5th London Volunteer Infantry Brigade: J. G. Fraser and J. J. R. Macleod.

SOUTH AFRICAN WAR NOTES.

Lieutenant Beatty, R.A.M.C., is reported out of danger.

Civil Surgeon White was reported very slightly improved on May 27th.

The steamship *Nubia* left Port Natal for England on May 24th with the following invalids on board:—Captain L. E. L. Parker, R.A.M.C., and Civil Surgeons Ilott and Hoops. The following members of the Army Medical Service are also on board: Lieutenant-Colonel R. L. Love, R.A.M.C., Lieutenant C. S. Cato, R.A.M.C., and Civil Surgeons Macdonald, Ellis, and Heron.

THE REPORT ON THE EDUCATION AND TRAINING OF OFFICERS OF THE ARMY.

Notices of this report have appeared in the daily and service journals but no copy of the report has, so far as we know, yet been issued from any official or authorised source. If the analyses which have appeared correctly summarise its nature and contents it seems to be a document of a severely critical and trenchant kind and to put forward a series of recommendations which, if adopted, will bring about a radical reform. It is in the Royal Military College, Sandhurst, and the system in force there, together with an alleged lack of supervision, that the committee apparently finds so much to condemn; the Royal Military Academy, Woolwich, appears to have passed through the inquiry satisfactorily.

DEATHS IN THE SERVICES.

Surgeon-Colonel Samuel Archer, A.M.S. (retired), at Rapallo, Italy, aged 68 years. He joined the army as Assistant-Surgeon in 1858, became Surgeon in 1873, Surgeon-Major in 1873, Brigade-Surgeon in 1887, and retired eight years later. He served with the 101st Fusiliers in the campaign in the North-West Frontier of India in 1863 (medal), including the storming of the Conical Hill and destruction of Umbeylah (medal with clasp). In the Nile Campaign 1884–85 he was in charge of the field hospital at Korti (medal with clasp and Khedive's star). He was in medical charge at Wady Halfa and of lines of communication to Akasheh in the expedition on the Soudan Frontier in 1885–86.

EXAMINERS FOR THE INDIAN MEDICAL SERVICE.

The Secretary of State for India has appointed the following gentlemen to be examiners for the Indian Medical Service: Professor Clifford Allbutt, F.R.S. (Medicine and Therapeutics); Mr. Howard Marsh (Surgery and Diseases of the Eye); Professor D. J. Cunningham, F.R.S. (Surgical Anatomy and Physiology); Professor R. Calder Leith, F.R.S. Ed. (Pathology and Bacteriology); Dr. R. Milne Murray, F.R.S. Ed. (Midwifery and Diseases of Women and Children), Professor Ralph Stockman, F.R.S. Ed. (Chemistry, Pharmacy, Botany, and Zoology).

SURGEON-GENERAL TOWNSEND, C.B., A.M.S.

This officer, who it will be remembered was severely wounded at Tweebosch, will, it is understood, soon take up his duties. He has been principal medical officer with Lord Methuen's force, with which he did much hard and excellent service, since the war began, having embarked from England with the staff of the 1st Division.

THE ROYAL MILITARY TOURNAMENT.

The Royal Military Tournament at the Agricultural Hall, Islington, will close its doors on June 5th. The entertainment as a whole shows this year a great improvement on those of previous years and no one who is able to visit the Tournament should fail to do so.

The annual Ambulance Challenge Shield Competition of the Volunteer Medical Association will be held this year at the Guildhall on June 7th, at 3 o'clock. The honorary secretary of the association, we are informed, has arranged with the officer commanding the London companies of the Royal Army Medical Corps (Volunteers) for the board and lodging at their headquarters, Calthorpe-street, Gray's Inn-road, of squads coming from the provinces for the competition. Further information can be obtained from Surgeon-Major J. J. de Z. Marshall, honorary secretary, Shortwood, Teddington, S.W.

The report by the Central British Red Cross Committee on Voluntary Organisations in Aid of the Sick and Wounded during the South African War has been issued in the form of a Blue-book. It consists of some 200 foolscap pages and contains several well-executed plans and photographs.

Inspector-General Sir Henry F. Norbury, Director-General of the Royal Navy Medical Department, will be present at the Sanitary Institute coronation dinner on June 2nd at the Midland Grand Hotel.

Correspondence.

"Audi alteram partem."

THE WILLIAM SMYTH MEMORIAL FUND.

To the Editors of THE LANCET.

SIRS,—Would you kindly allow me the courtesy of the columns of THE LANCET to enable me to thank the medical profession for their great kindness to me and my family in connexion with Dr. Smyth's death? My heart is too full of gratitude for me adequately to express my feelings and I can only say I shall never forget the generosity of my dear husband's colleagues in the affliction that so suddenly came upon us. I use the columns of THE LANCET as the most effective means of reaching the medical profession.

I am, Sirs, yours sincerely,

Burton Port, co. Donegal, May 26th, 1902. E. M. SMYTH.

WHAT IS SCROFULA?

To the Editors of THE LANCET.

SIRS,—I have pleasure in answering the query of your correspondent "Pes" in THE LANCET of May 24th, p. 1498, as to the reason why "scrofula" is retained in the new official list of causes of death, a copy of which appeared in a recent number of THE LANCET. The reason is that the term "scrofula," as distinct from tuberculosis, is in common use by medical men, not a few of whom (including certain physicians and surgeons of eminence) still believe the conditions which these terms imply to be distinct. Without presuming to dogmatise on the question I may perhaps quote in justification of my conduct the following remarks by Professor Clifford Allbutt in his "System of Medicine," vol. iv., p. 597: "Whether scrofula is always due to the tubercle bacillus or always associated with it is not yet decided. It seems probable that scrofula may arise by the agency of microbes other than tubercles; again, that, originating independently of tubercle, on it tubercle may afterwards

supervene; and, once more, that scrofula may be due to tubercle primarily, or even exclusively. No doubt these problems will soon be settled." Having regard to the foregoing considerations and to the fact that the term "scrofula" has appeared in the list of diseases used in this office ever since its establishment I was unwilling to discard it, lest the comparability of figures in a series of years should be impaired. "Pes" will, however, probably perceive that as soon as unanimity on the subject is attained by the medical authorities it will be easy, if requisite, to add together the two lines affected in the tables for previous years, and thus nothing will be lost.

I am, Sirs, yours faithfully,

JOHN TATHAM.

General Register Office, Somerset House, May 27th, 1902.

ETHER *v.* CHLOROFORM.

To the Editors of THE LANCET.

SIRS,—I, like many others, have read with great interest in THE LANCET of May 24th, p. 1457, the record by Mr. H. Challice Crouch and Mr. Edred M. Corner of their investigation into the effects of ether inhalation on the respiratory organs. It is impossible to do so without a strong feeling of admiration for the thoroughness and perseverance with which they have gone into the matter. It is difficult for anyone who has not undertaken a somewhat similar investigation fully to realise the great calls on time and patience which they must have met with. The result is, they tell us in brief, that they found that out of 2400 ether cases 10 developed more or less severe chest symptoms, one case ending fatally, and we are left to conclude, presumably, that out of 24,000 cases 100 would develop similar troubles and 10 would become defunct. In short, we are asked to reconsider our position, to look upon chloroform as a less noxious body than ether, all things considered, and consequently fitter for routine employment in anæsthetic practice. Before so concluding are we not entitled to ask Mr. Crouch and Mr. Corner, as a favour to the profession and for the sake of suffering humanity, to continue their investigations for another year—with this alteration. Let the house officers and anæsthetists use $CHCl_3$ in the 2400 cases and ether in the 600, or in like proportion, and then we may be in a better position to judge as to results.

Mr. Crouch and Mr. Corner remark that the death-rate under $CHCl_3$ *is said to be* 1 in 3000. It *is* said to be—and who orginally arrived at this conclusion I do not know. One enthusiast has even put the death-rate as low as 0 in 40,000. I submit, however, that were the results of every large general hospital in the United Kingdom during any given year investigated there is not one at which the death-rate from $CHCl_3$ would not work out higher than 1 in 3000. In this year's official report of one large institution (which shall be nameless) six deaths are stated to have occurred in 2901 administrations of $CHCl_3 = 1$ in 483. In this hospital very little ether is used. Further, at another institution of similar size, during a recent year 12 deaths were recorded from $CHCl_3$, and these chiefly occurred in cases chloroformed in or off the wards (as Mr. Crouch and Mr. Corner describe) by house surgeons. The house surgeons are now positively forbidden to use $CHCl_3$ in such cases unless quite unavoidable. One could say a good deal more, but *cui bono?* This question has been hammered out for the past 50 years and one might with as much profit enter into a discussion on the respective merits of spring mattresses and feather-beds.

Mr. Crouch and Mr. Corner mention that "anæsthetists never hear at all of the subsequent history of their cases." I think that this can be true only of a proportion of cases, but, at any rate, if an appreciable percentage of patients in private practice—or for that matter in hospitals—did get bronchitis or pneumonia after ether it is impossible to suppose that anæsthetists would not hear of it, and very plainly, too, from the surgeons in charge. The strongest proof of the greater safety of ether for routine cases, taking *all* things into consideration, seems to be the fact that almost invariably as the experience of anæsthetists increases they use ether, or some mixture chiefly consisting of it, more widely. And can we suppose that any sane man would spend his day going from house to house with a bag containing the necessary ether and gas impedimenta, weighing anything from 10 to 20 pounds, unless he had overwhelming proof that he was thus enabled to use an agent many times safer than the very portable chloroform?

In Germany operating theatres are kept at a very much higher temperature than in this country, generally speaking, and bronchitis is seen there after ether, $CHCl_3$, or cocaine anæsthesia not uncommonly.[1] It is obviously due to the sudden change of temperature in the patient's surroundings when taken back to the ward. The greater the change, evidently the more bronchitis. The practical point arising out of this paper by Mr. Crouch and Mr. Corner is, Can we not possibly minimise this change of temperature by keeping the operating theatres at a reasonably warm temperature and the wards as near as is practicable the same? and also prevent a chill in the draughty corridors by extra warm blankets and covering the patient's head with a towel?

Those whose faith in ether has become somewhat perturbed by the resuscitation of the "bronchitis bogie" can scarcely do better than read Dr. R. J. Probyn-Williams's admirable paper on the Use and Abuse of Ether in the *Edinburgh Medical Journal* for May, 1902.

I am, Sirs, yours faithfully,

THOMAS D. LUKE,

Instructor in Anæsthetics, University Wards, Royal Infirmary, Edinburgh.

Edinburgh, May 27th, 1902.

INFANTILE SCURVY AND RICKETS.

To the Editors of THE LANCET.

SIRS,—In reference to the letter of Dr. Clement Dukes in THE LANCET of May 10th, p. 1358, allow me to point out that although medical men have been strenuously advocating the boiling of milk and the restriction of the baby's food to boiled milk and cooked milk foods, still the diet of very few children indeed has been [so restricted; nevertheless, the evil consequences of such a restriction have been prevented by the all but universal habit which the working- and middle-classes have of feeding their children with little bits of anything and everything from their own tables.

Two years ago, however, I had a child under my care who was fed absolutely on artificial food and boiled milk. She was born in the early spring, was a delicate and fretful little thing, and even although the greatest care was bestowed on the preparation of this food she had frequent attacks of diarrhœa. She got on fairly well between these attacks through the summer and by the sixth month she had cut two teeth and seemed in moderate health but always fretful and subject to diarrhœa. She showed no signs of rachitis, such as sweating, &c. About the eighth month, however, severe symptoms of scurvy appeared, hæmorrhage from the bowel, bleeding gums, extravasation of blood into ankle-joints, &c. Here was a condition where the cause was apparent and by way of experiment I simply ordered the mother to procure fresh milk three times a day and give it to the child in the fresh and unboiled state; this was all the treatment adopted, with the exception of small doses of solution of hydrochlorate of morphia to relieve the pain, and it proved eminently satisfactory.

Other three cases of infantile scurvy have come under my notice in the course of the past eight years. In each the symptoms were sufficiently pronounced to prevent their being mistaken and in each raw milk proved efficacious treatment. Rachitis and infantile scurvy may and do undoubtedly occur together but they also may and do as undoubtedly occur independently. Infantile scurvy yields readily to anti-scorbutic treatment. Rachitis is much more resisting; in its treatment the diet should certainly be such as would preclude the merest possibility of scurvy—antiscorbutic if you like, but that is not in itself sufficient by any means. Generous diet, fresh air, &c., all sometimes fail to produce any marked effect. The various preparations of iron, too, are all valuable adjuncts in the treatment of rickets. Scorbutic disease has always been amenable to treatment, but in rickets the elimination of scorbutic phenomena is but a small part of the treatment.

It seems to me that with the universal adoption of prepared foods and the general call for the sterilisation of milk in the artificial rearing of children has come a recrudescence of scurvy. The detection of scorbutic phenomena in children—considered apart from the knowledge of the potency of these new foods to produce such—gave infantile scurvy an exaggerated importance. Not only was its appearance misunderstood but it seemed in many

[1] Von Mickulicz: Transactions of the German Society of Surgery, 1901.

quarters to be tacitly assumed that the secret causation in the problem of rickets was this, infantile scurvy.

I am, Sirs, yours faithfully,

JOHN SUTHERLAND, M.B., C.M., B.Sc. Edin.

Netherfield, Notts, May 24th, 1902.

TROPICAL ABSCESS OF THE LIVER.

To the Editors of THE LANCET.

SIRS,—In your report of the discussion which followed the reading of Mr. Godlee's paper on the above subject at the meeting of the Royal Medical and Chirurgical Society on May 13th, published in THE LANCET of May 24th, p. 1467, my remarks are so imperfectly given that I must ask you to allow me to make the following corrections.

I did not say that "it was the practice in India to use Dieulafoy's aspirator and in small abscesses this was sufficient." What I said was that "it was *at one time* (30 years ago) the practice in India to use Dieulafoy's aspirator, and *in a certain proportion* of cases, *especially* in small abscesses, this was *sometimes* found to be sufficient and no further surgical interference was necessary." I did not say that "even in larger abscesses one or two such operations were sufficient." I said that they were *sometimes* sufficient and quoted a series of successful cases of this kind published by Lawrie a few years ago. The usual practice in India has been to remove a portion of rib when necessary and to cut down directly into the abscess and to drain freely, but a preliminary operation of stitching the liver to the abdominal wall has been generally considered impracticable, and unnecessary on account of the innocuous character of liver pus in acute cases and because the large drainage-tube, occupying entirely as it does the incision into the liver, effectually shuts off the abscess cavity from that of the abdomen and in 24 hours the path is sealed by adhesions if they did not already exist.

I am, Sirs, yours faithfully,

A. CROMBIE, M.D. Edin.

Beckenhall-mansions, W., May 23rd, 1902.

ON THE USE OF THE TERM "BLASTOMA."

To the Editors of THE LANCET.

SIRS,—In the report of the meeting of the Pathological Society of London of April 29th, given in THE LANCET of May 3rd, p. 1249, which has just come to hand, I note that, following Dr. C. P. White, the term "blastoma" is employed to indicate the group of tumours formed of "indifferent cells" which eventually give rise to both connective tissue (sarcomatous) and epithelioma (carcinomatous) elements—the carcino-sarcomas. If I remember aright, Dr. White first employed the term as thus defined in his article upon the Definition, Terminology, and Classification of Tumours in the *Journal of Pathology*, vol. vi., 1899, p. 220. In his interesting Erasmus Wilson Lectures delivered in February last and published in your pages, he again urged the employment of the term in this same sense, and in both articles he states that he owes it to Dr. Herbert Snow, who in November, 1895,[1] proposed its use to indicate a somewhat similar group of new growths. What Dr. Snow suggested was that one variety of "round-celled sarcoma" should be given this name, forms of "congenital cancer, so to speak," arising in such parts and in such circumstances "as to leave no doubt as to their origin from unobliterated rudiments of fœtal structures." Under this title, according to him, would be grouped "many lesions occurring for the most part in childhood or early youth—the ovary, palate, mediastinum, bladder, prostate, &c.," and "consisting wholly or almost so of rounded cells."

It will be seen in the first place that Dr. White in seizing upon Dr. Snow's term, employs it in a different sense. Dr. Snow's definition is vague and his classification, I fear, cannot stand. There would thus be at least a plausible excuse for the appropriation, were it not that years prior to Dr. White and several years also prior to Dr. Snow this term had been introduced in a more definite sense and by a very prominent pathologist—in fact, by no less an authority than Professor E. Klebs, in the second volume of his frequently quoted Algemeine Pathologie, published at Jena in 1889. For some 330 pages in his treatment of the subjects of tumours he consistently employs the term and so important is his work that there is no excuse for overlooking his usage thereof or for employing it without acknowledgment in a sense different from that laid down by him.

[1] Transactions of the Pathological Society of London, vol. xlvii., 1896, p. 259

Briefly, Professor Klebs objected to confining the term "neoplasia" to tumour growths on the ground that simple hyperplasia is also neoplasia. For "neoplasia" and "neoplasm" he substituted "blastosis" and "blastoma," and he classified tumours into the two great groups of the blastomata, or tumours proper, subdivided into typical and atypical, and the teratoblastomata, or teratomata, the products of fœtal implantation.

I am, to some extent, personally interested in this matter because in recent articles (as, for instance, in that upon the Causation of Cancerous and other New Growths, published in the *British Medical Journal* and the *Yale Medical Journal* last year), reverting to Professor Klebs's classification, I have used the term blastoma in the sense indicated by him. A little consideration will show that it is essential to possess some word to designate everyday tumours as distinct from the peculiar group of the teratomata and that this term "blastoma" is quite the most suitable for the purpose. I had imagined that Professor Klebs's work was so well known that it was unnecessary to indicate the origin of the word; evidently this was a mistake, but evidently also when it has been given so clear a meaning there is no justification for seeking to send it into more active circulation with a new and restricted significance. Priority demands that in the absence of urgent cause it be employed as originally understood and that Dr. White select some other term for the group of cases of carcinoma-sarcomatodes.

I am, Sirs, yours faithfully,

Montreal, May 15th, 1902. J. GEORGE ADAMI.

THE FUTURE OF THE ROYAL ARMY MEDICAL CORPS.

To the Editors of THE LANCET.

SIRS,—Since the new Royal Warrant and also the rules for admission into the Royal Army Medical Corps have been published, in which most of us agree that the changes are distinctly for the better, it may not be out of place to put before your readers and more especially intending candidates for commissions into the corps certain points which to my mind are paramount in importance and about which up to the present the Government has published no definite order. 1. The extent of increase of *personnel* in the corps. 2. The facilities to be given for "study leave," especially with a view to promotion examinations and "specialist" work. 3. The equalisation of home and foreign service. 4. The proportionate rates of pay in India as compared with those at home along with charge pay and other allowance when serving in that country.

The first of these, "the extent of increase of the *personnel* in the corps," is the most important, as without an increase from the present number of medical officers, some 970 up to 1400 or 1500 now that South Africa has to be manned, the points enumerated in No. 2 and No. 3 will be *impossible* to carry out. As this is a matter of money it will be the chief stumbling-block to the home Government. With regard to No. 4, dealing with pay in India, if the corps is to attract young medical men the Indian Government must give way, as no young doctor who understands the matter would care to have to serve in the Indian climate with less advantages than he has at home. If Mr. Brodrick wishes to make the Royal Army Medical Corps the best army medical service in Europe, as he has said he does, and I am sure intends to do his best to do, the points I have upheld must be acceded to and the competition for the corps would, I am persuaded, be a steady and lasting one. On the other hand, it must be clearly understood by those casting in their lot with the army doctor that promises are sometimes like pie-crusts and that we must get at least these concessions in black and white before the Royal Army Medical Corps *does* become the best army medical service in Europe.

I am, Sirs, yours faithfully,

London, May 18th, 1902. VERAX.

WHAT IS THE BEST PORTABLE SPRAYING DISINFECTING APPARATUS?

To the Editors of THE LANCET.

SIRS,—I shall feel greatly obliged if any of your readers will favour me through the medium of THE LANCET with their views as to the best portable spraying disinfecting apparatus for use by sanitary inspectors.

I am, Sirs, yours faithfully,

May 29th, 1902. M.O.H.

PLAGUE PRECAUTIONS AT MARSEILLES.

(FROM OUR SPECIAL SANITARY COMMISSIONER.)

(*Concluded from page 1500.*)

The Rats on the "Sénégal."—Anti-plague Serum Inoculations.—The Ministerial Instructions in regard to the Destruction of Rats.—New Measures for placing Ratsin Quarantine.—The Various Means of destroying Rats.—The Bacteriological Examination of Rats.

As already explained, the occurrence of cases of plague on board the *Sénégal* distinctly demonstrated that the means of disinfection employed were inefficient. The *Sénégal* came from Beyrout. She had called at Alexandria and then sailed for Marseilles, reaching the latter port on August 28th, 1901. The crew then numbered 85 men and there were 254 passengers. The ship was provided with a disinfecting stove and there was a surgeon on board. Everybody was in perfect health, nevertheless 409 trunks, boxes, and the like, were disinfected at Frioul. All the personal linen, table-linen, and bedding were passed through the stoves and exposed to the action of superheated steam under pressure. In fact everything was done that could be done with the exception that no measures were taken in regard to the rats that might be on board. The crew remained at Marseilles for 17 days, they were examined before the ship sailed again, and were in perfect health at the moment of their departure. The *Sénégal*, with its 174 scientific explorers and excursionists, went first to Corsica, but four days later, on leaving Ajaccio to proceed eastwards to Palestine and other places of interest, one of the crew fell ill with plague. This occurred on Sept. 18th. The ship had left Alexandria, the last port where there were cases of plague, on August 23rd, and it was four days later that she reached Frioul and that the process of disinfection was commenced. There were no cases of plague at Marseilles and 27 days had elapsed since the ship had left Alexandria before the first case of plague occurred. There was, however, some doubt as to whether the patient was really suffering from plague. The passengers were at first kept on board the ship. Four rats were captured and bacteriologically examined. By the time these rats were proved to be infected a second case of plague was notified on board the *Sénégal* and the symptoms of the first case had so developed as to leave no doubt as to the nature of the disease. Thus we find a ship that has been disinfected and on board of which on starting for another cruise everyone seemed to be in good health, although subsequent bacteriological examination proved that the rats in the ship were infected with plague. Then occurred two cases of plague, not among the passengers but among the members of the crew, who, by reason of the work which they have to do, are brought more in contact with the rats than are the passengers. In most other European ports the passengers and crew would have had to remain on board till the termination of the period of quarantine. They would then have continued in contact with the rats that seem to have been the cause of the cases of plague that had occurred. In this instance the passengers were at least able to land and had houses to live in. Thus separated from the rats no further mischief occurred, the only trouble being that at Frioul there were not attendants enough to see to the comfort of so unexpected and numerous an advent of first-class passengers. The *Sénégal* arrived at Frioul on a Wednesday at 11 o'clock in the morning. By 5 o'clock on the following Saturday afternoon everyone on board who desired to take this precaution had been inoculated with the anti-plague serum. This would have been done more rapidly but for the facts that some time elapsed before the presence of plague was absolutely proved and that the passengers insisted on the employment of fresh serum which had to be telegraphed for from Paris.

The rule at Marseilles is to keep a reserve of 400 doses of anti-plague serum and whenever any of these are employed a further supply is ordered. A large portion of this stock had been exhausted to inoculate the crew of the *Laos*, which arrived at Frioul shortly before the *Sénégal*. The serum, protected by the air-tight tubes in which it is placed, is supposed to retain all its qualities for about a year, therefore it was not necessary to ask for fresh serum, though this was obtained. But there is no law by which crews and passengers can be compelled to submit to inoculations. If, on this occasion, there was no resistance this was due to the eminent *savants* who were on board the *Sénégal*, for they were the first to set the example by submitting themselves to the process of inoculation. Only eight or nine persons refused.

The great question, however, which the adventures of the *Sénégal* excursionists serve to bring prominently forward is that of the rats. The importance of dealing with the rats was, it is true, fully realised by the sanitary authorities before the occurrence of plague on board the *Sénégal*; but there is always a broad dividing-line between what is theoretically proclaimed and what is practically enforced. The *Sénégal* incident occurred in September, 1901. In July, 1899, the following ministerial instructions had been issued to the port sanitary authorities: "Rats and mice are very active agents in the propagation of plague. When they are affected the disease soon spreads among the populations where they dwell or pass. The epizootic among these animals generally precedes by a few days the human epidemic. Therefore we must at all cost prevent their presence on board ships or at the quarantine stations. When a ship is in harbour the ropes or chains by which it is anchored or lashed to the shore must be armed with brushes, discs, or other contrivances which will prevent rats climbing along these ropes for the purpose of either leaving or of penetrating into the ship. During night-time the gangways to the shore must be removed. Before the ship is loaded care must be taken to see that there are no rats on board. If there are any rats they must be destroyed in the following manner. The ship, while empty, must be disinfected with sulphurous acid in all those parts that are frequented by the rats. The other parts of the ship may be disinfected with saline sublimate solutions, one gramme of bichloride of mercury to two grammes of marine salt mixed in one litre of distilled water. The dead rats must be cremated. The sanitary *régime* to be imposed upon the ships depends on the perfect execution of these instructions. The more thoroughly and rapidly the rats are destroyed the less will it be necessary subsequently to enforce these measures."

Had the above instructions been strictly carried out with regard to the *Sénégal* the pleasure-cruise on which it started would probably not have been brought to so premature and unpleasant a conclusion. As a matter of fact, it is only within the last six months that these instructions have been strictly applied, and this has involved quite a revolution in the procedure adopted in regard to the ships arriving from infected ports. To describe in a few words the procedure now enforced, it may be said that, though human beings are no longer put in quarantine when all on board are in good health, a strict quarantine is always put upon the rats. When a ship arrives from an infected port the hold is locked up. The passengers and crew having been medically examined and the linen and bedding having been disinfected, the ship can then proceed from Frioul to Marseilles. Thus, so far as the passengers are concerned, there is only a delay of a few hours—that is, of course, if all are well on board. But the ship, though allowed access to the Marseilles docks, is placed in a sort of quarantine and has to fly the yellow flag. This flag signifies that the rats have not yet been examined and that all ropes and cables attached to the ship must be fitted with contrivances that will prevent the rats from running along them to get on, or off, the ship. The hold is then searched and if any dead rats are found this is thought to be a suspicious circumstance. If no dead rats are found traps are set to capture live rats. The specimen rats thus secured have to be handled with care. The method adopted is to soak a cloth in a mercurial solution and to take hold of the rats with this moist cloth. The rats are then bacteriologically examined. If the rats are found to be suffering from plague the ship is generally sent back to Frioul so as to be disinfected more thoroughly, in which case, of course, all the rats are killed. Nor is this precaution confined to the ships. The rats on shore, in and about the docks, are constantly hunted and when captured, examined. On one occasion these land rats were found to be infected. The dock was therefore at once condemned and closed to all traffic. A great rat-hunt was organised, all the rats were killed, and all the merchandise that happened to be in the dock at the time was disinfected. Of the rats captured on 44 ships from January to March this year in seven of these ships they were found to be suffering from plague. This clearly shows the usefulness and the necessity of the precautions taken. So far, and in most cases, the rats were killed by means of sulphurous fumigations. Altogether 10,611 rats have been killed in the three months. These figures give some idea of the importance and extent of the

work done. But there are serious objections to the employment of sulphurous fumes. This process does not kill the rats at once. They have time to hide themselves and it is very difficult to find their bodies. If they are not found then decompositon ensues and a very serious nuisance is created. Moreover, the shipowners complain that the sulphur injures the ironwork of the ships and also some of the goods on board. For these reasons the use of carbonic acid gas is preferable. But it is much more difficult to apply this method. The carbonic acid employed is in bottles and in a liquid condition. When liberated it produces a freezing temperature, whereas the normal temperature should be maintained so that the gas may spread itself in all directions and sink to the bottom of the hold where the rats mostly congregate. Experiments are now being made to warm the gas as it leaves the bottle by discharging it into a tube and making it pass through hot water. Then precautions must be taken to clear the hold before allowing any men to enter. For this purpose two ventilating shafts of uneven length are introduced, one as an air inlet and the other as an outlet. To hasten the process a fan should be employed to draw out the air. Then candles are lowered into the hold and no one is allowed to descend unless the candles burn brightly. All this, however, is still only in the experimental stage. Nor can it be said that the problem has been solved in all its details. For instance, the rats on board a French ship may all be destroyed and everything rendered secure but this ship may be moored next to a foreign ship where no such precautions have been taken and the French ship is then invaded by rats from the foreign ship. Even if the same process were applied to every foreign ship entering a French port there is no telling what would happen to these ships when they went to other countries and to other ports?

It is with regard to the workers below deck that the principal danger arises. They come in personal contact with the rats. This is more especially the case with natives who, from religious motives, insist on cooking their own food. The fragments of this food attract the rats and they overrun the bunks. These men often catch and handle the rats and thus expose themselves to a serious risk of infection. Most of the cases of plague that have occurred on board ship have been among the crew and those members of the crew who work below deck. This is a fact which tends to confirm the theory that the rats constitute the main danger. This is so evident that one of the main difficulties in dealing with the passengers of the *Sénégal* when they were landed at Frioul was due to their refusing to be waited upon by the stewards and stewardesses of the ship. They insisted that the chief advantage of being landed at Frioul was that they might be separated from those who had been exposed to the greatest danger of infection. Although the extra attendants hastily recruited at Marseilles were quite incompetent the passengers preferred the consequent inconvenience. They felt safer when their beds were made and their food was served by persons who came from Marseilles and had not been living among the infected rats of the ship.

From all these details it will be seen that a new departure has been made. The experiments now being carried out on a very extensive scale by Dr. Catalan, the able and experienced port sanitary officer of Marseilles, will be watched with deep interest, especially in all maritime countries. I must not conclude this description of the good and instructive work done without expressing my thanks to Dr. Catalan for his unfailing courtesy, for the facilities which he gave me to visit the disinfecting station at Frioul, and for the very important information which he enabled me to gather. Imitation is the sincerest form of flattery, and I think that in several respects Dr. Catalan will find many imitators.

THE GERMAN CONGRESS OF INTERNAL MEDICINE.

(FROM OUR BERLIN CORRESPONDENT.)

(Concluded from p. 1428.)

Photo-therapy.

PROFESSOR BIE (Copenhagen) read a paper on the Use of Light in the Treatment of Disease according to Finsen's Method. He first explained the action of light on the skin, the blood, and the nervous system, as well as the effects which it produced on metabolism. Light, he said, was able to destroy bacteria in the superficial layers of the skin but it did not penetrate to the deeper layers of the skin, so that a direct destruction of tubercle bacilli in the lungs was obviously impossible. Photo-therapy was of much utility in small-pox, for under red light the pustules showed a tendency to dry up and suppuration was diminished. In erysipelas also the extension of the disease seemed to be restrained by the action of light, but in scarlet fever and measles the effect was less marked. The good effects of light in the treatment of disease depended not only on the exclusion of injurious forms of light but on the intensification of rays which had a beneficial influence on morbid processes. Red and ultra-red rays produced thermic effects, violet and ultra-violet rays produced chemical effects, and yellow and green rays were neutral. Electric light contained a smaller proportion of chemically active rays than did sunlight, so that it required to be concentrated by lenses. Professor Bie then described the apparatus devised by Professor Finsen. In the treatment of lupus two square centimetres of skin were exposed to the rays for an hour every day, the result being that the diseased portions were replaced eventually by scar tissue. The exposures had sometimes to be repeated. The treatment was painless but relapses occasionally occurred. The therapeutic action of light had proved successful not only in lupus vulgaris but also in lupus erythematosus, alopecia areata, acne vulgaris, acne rosacea, and nævus.

In the discussion it was stated that unqualified practitioners had opened establishments for the treatment of patients by Finsen's methods; this abuse, however, would probably receive a check when the medical profession recognised the merits of the treatment and recommended it in suitable cases.

Dr. HOLLÄNDER (Berlin) then described his method of treating lupus erythematosus, which is not a disease of tuberculous origin but is localised in the cutaneous glands. He had found that painting the part with iodine in conjunction with the internal administration of quinine had proved perfectly successful.

The Glycogen Reaction of Leucocytes.

Dr. KAMINER (Berlin) read a paper on the relations of this reaction to infectious diseases. His observations were made on animals inoculated with various cultures. He found that the reaction occurred in infections due to staphylococcus, streptococcus, pneumococcus, bacterium coli, bacillus anthracis, bacillus pyocyaneus, and the bacillus of enteric fever, but it failed to appear after injections of cultures of the organism of fowl cholera and the toxins of tetanus. The reaction occurred after injection of the toxin of diphtheria but not when the animal had been immunised.

Dr. HOFBAUER (Vienna) said that in the human subject the results were quite different from those just described, for patients suffering from infectious diseases did not show those reactions.

Uric Acid.

Professor KLEMPERER (Berlin) read a paper on the Solubility of Uric Acid. He said that the urine contained a larger quantity of dissolved uric acid than might have been supposed. He had found that the solvent action of the urine depended on the amount of urochrome (yellow colouring matter) which was present.

Charcot's Crystals.

Professor GUMPRECHT (Weimar) showed that these crystals might undergo coagulation. They therefore belonged to the albuminous class of substances but the nature of the albumin was not yet ascertained.

Glycosuria in Tramps.

Professor HOPPE-SEYLER (Kiel) read an interesting communication on glycosuria observed by him in persons who previously to their admission into hospital had suffered from insufficiency of rest and food. In 11 such cases he found that sugar was present in the urine to a small extent but it disappeared in a few days on the patients being properly fed. One man who had been admitted twice to the hospital showed this symptom on each occasion. The patients exhibited enlargement of the liver and Professor Hoppe-Seyler was of opinion that the glycosuria was due to pancreatic derangement. He proposed for this condition the name of "glycosuria of tramps."

Glycosuria and Diabetes.

Dr. F. BLUM (Frankfort) said that he had found that the administration of even a small quantity of the substance of

the suprarenal gland caused glycosuria in animals and he recommended the making of investigations on the human subject for the purpose of ascertaining whether in diabetes there were anomalies of the suprarenal glands.

Dr. VOGT (Strassburg) read a paper on Glycosuria produced Experimentally by Means of Phloridzin.

Dr. BIAL (Kissingen) made some remarks on glycuronic acid, a product of the metabolism of sugar discovered by him in the intestines. When large quantities of the acid were present in the intestinal canal it was eventually absorbed and might be found in the urine. He then described the chemical conditions under which the acid was produced.

Graves's Disease.

Dr. GOEBEL (Bielefeld) described a case of Graves's Disease in which he had obtained a successful result by injections of blood serum taken from a goat the thyroid gland of which had been removed. He had also administered the milk of the animal to the patient.

Dr. BLUM (Frankfort) expressed the opinion that the success in this case was due principally to the milk diet; he had known recovery to follow the use of milk diet with exclusion of meat.

Thyroidin in Cretinism.

Dr. SCHOLZ (GRAZ) gave an account of the use of thyroidin in cases of cretinism. The results were quite unsatisfactory, the patients becoming worse, so that the administration of the remedy had to be stopped. There was therefore a marked difference between the effects produced by thyroidin in cretinism and in myxœdema.

Professor NAUNYN (Strassburg) said that Dr. Scholz had been treating cases of endemic cretinism, but he (Professor Naunyn) had observed in sporadic cretinism an obvious improvement under the use of thyroidin compounds.

Among the many other papers submitted to the Congress mention may be made of those read by Professor MÜLLER (Munich), on Autolysis; by Dr. VON CRIEGERN (Leipsic), on Poisoning by Paraphenyldiamin; by Dr. LENNHOFF, on Traumatic Moveable Kidney; and by Dr. SCHROTTER (Vienna), on Actinomycosis of the Heart.

Next year the Congress will meet in Leipsic.

NOTES FROM INDIA.

(FROM OUR SPECIAL CORRESPONDENT.)

Decline of the Plague Epidemic.—Curious Natural History Facts in Gujerat.

THIS season's recrudescence of plague throughout India may now be said to be on the decline. After having reached nearly 25,000 deaths in one week the mortality has steadily fallen and for the past seven days 17,302 deaths have been returned, as against 19,412 for the previous report. For the corresponding week last year there were only 4093 deaths. The special features to be noted are the decline in the Punjab, the rapid fall in the United Provinces, and the steady decrease in Bengal. The recrudescence expected in Bengal has been abortive and there has been as yet no renewal in the Behar district. Plague, however, has at last spread to Eastern Bengal. This has so far been entirely free, but recently cases have occurred near Goalundo and also at Baritpur, a village in Mymensingh. The figures for the week are: Bombay city 587 deaths, the Province 1673, Karachi city 120, Madras Presidency 34, Calcutta 577, Bengal 553, the United Provinces 806, the Punjab 12,311, the Mysore State 124, Hyderabad State 154, Kashmir 426, and Berar 30. The outbreak in Calcutta is following an unusual course. It has not developed with such virulent outburst and it is more prolonged. In Bombay city also the disease is running a different course and there, too, it seems on the decline.

The province of Gujerat has lately been overrun with rats in enormous numbers. The young crops have been eaten up and great damage has been done. The excess has been amongst field rats, not amongst the town rats, and the extraordinary fact is that they have disappeared almost as rapidly as they came. Although plague is existent to a small extent in certain places this disease has not been the cause of their diminution. They have in reality been starved. There have been no crops in the fields except tobacco, castor, and aniseed, for none of which do they seem to care. There has been prolonged drought in this district also, and, whether due to this or to the excess of rats, there has been an almost total disappearance of snakes. Another association worth noting is the sudden exodus of quail. There is no evidence that the rats have died from plague or from any other form of septicæmia.

May 3rd.

LIVERPOOL.

(FROM OUR OWN CORRESPONDENT.)

Liverpool Port Sanitary Authority: the Medical Officer's Annual Report.

DR. E. W. HOPE, who is medical officer of the port sanitary authority of Liverpool as well as medical officer of health of the city, has recently issued his port sanitary report for the year 1901. The report contains much information as to the health of the port during the past 12 months, also an explanation of the system under which the port sanitary authority is conducted and a number of valuable tables and charts. The port sanitary authority's district extends from Formby Point along the coast-line and the east side of the river Mersey as far south as a point just beyond Garston and Speke, it crosses the estuary to Ince on the Cheshire side of the Mersey and proceeds as far as New Brighton and Little Meols. The port sanitary authority is informed of the approach of vessels by telephone from the Formby lightship, a distance of 10½ miles. On arrival vessels are boarded and examined by the port sanitary medical officers. The work of the port sanitary authority administration is carried out in conjunction with the staff of the customs which renders valuable assistance. Aid is also given by the regulations of the Mersey Docks and Harbour Board, of the London and North-Western Railway Company in connexion with Garston Docks and of the Manchester Ship Canal. Manchester-bound vessels infected with cholera, yellow fever, or plague are dealt with under an Order of the Local Government Board by the Liverpool Port Sanitary Authority. The medical staff of the port sanitary authority in ordinary circumstances consists of the medical officer of health and two deputy medical officers, one of whom is on duty during each tide. Four inspectors thoroughly conversant with marine matters are employed exclusively in routine port work, and in the ordinary inspection of ships. They also carry out the fumigation and disinfection of ships. The removal of patients from ships and the disinfection of bedding, clothing, &c., are carried out by the city staff of the Health Committee in all cases, and this staff also assists, when necessary, in the disinfection of vessels. With regard to hospital accommodation, the city hospitals are, as a rule, used for the reception of all sea-borne cases of infectious disease, whilst cases which require to be dealt with under the Local Government Board Order are taken to the port hospital on the Cheshire side of the river. Instructions relating to infectious diseases and printed in some half a dozen languages are given to the Liverpool Steamship Owners' Association and to the various shipping firms for use amongst their captains. They are also distributed to the foreign consuls. The report also contains instructions guarding against the spread of plague. During the past year the actual number of cases of infectious sickness, other than cholera, yellow fever, and plague, landed from vessels arriving at the port of Liverpool was 84, as against 101 in the preceding year. There was an increase in the cases of typhoid fever, of which there were 27 cases, as against 23 in the preceding year; and of scarlet fever of which there were six, as against five in the preceding year. 18 cases of small-pox were landed from vessels, as against 25 in the preceding year. There was one case of plague, whereas three were landed in 1900. It is also interesting to note that 26 cases of phthisis were reported as occurring on ships arriving at the port. Thorough fumigation of the berths occupied by the patients was carried out in all cases.

The Royal College of Physicians of London.

Dr. A. F. S. Grünbaum, the assistant lecturer in chemical physiology at University College, has been appointed by the Royal College of Physicians of London Goulstonian Lecturer for the ensuing year.

The Lancashire Asylums Board.

At the recent quarterly meeting of the Lancashire Asylums Board which was held at Preston Mr. Jenkins moved the adoption of the report of the Additional Accommodation

Committee. Since the last meeting of the board the committee had visited seven sites, only one of which was considered suitable—that situated at Whalley. A discussion arose on the necessity of providing further asylum accommodation in the county palatine. The subject was not considered as urgent by some members who argued that there was room now at all the four asylums and at Winwick for 600 or 700. The chairman, however, pointed out that the committee must not lose sight of the fact that it took five or six years to build an asylum. The difficulty of obtaining sites was a growing one. The committee had had such outside pressure put upon it that he should be sorry if it was to relax its efforts. It was not at all probable that the small county boroughs would construct asylums. If Liverpool intended to do so it would require one on as large a scale as that at Winwick. Mr. Shelmerdine said that a strong feeling existed in Liverpool with respect to the cost to the city of its lunatics. Many members of the city council felt that they were being unjustly mulcted. It had just been discovered that they would have to pay an extra charge of £6000, and it was not improbable that the corporation of Liverpool would eventually provide an asylum for that city, in which case the asylums board would find that it had too much instead of too little room.

Liverpool and Small-pox.

At the weekly meeting of the Health Committee held on May 22nd, the medical officer of health reported that the death-rate for the past week was 39 per 1000 of the population, as against 20·1 per 1000 in the previous year. In the hospitals there were now only 19 cases of small-pox. There were 432 cases of scarlet fever, 47 cases of typhoid fever, and 53 cases of diphtheria. During the week only one case of small-pox had been reported and that case referred to a woman who had arrived from London. However, on the day following that of the meeting of the Health Committee a fresh case was reported to the medical officer, that of a dock-gate man employed at one of the North-end docks. He was promptly removed to hospital and measures were at once taken to prevent the disease spreading.

May 27th.

WALES AND WESTERN COUNTIES NOTES.

(FROM OUR OWN CORRESPONDENTS.)

Bridgend Workhouse.

IT is now some years since the attention of the Bridgend Board of Guardians was first directed to the inadequate accommodation at the workhouse and to the necessity for extensive alterations. As long ago as 1895 the medical officer to the workhouse (Mr. Wyndham Randall) made certain recommendations and advised specific structural additions, and he has from time to time repeated the advice which he then gave. Upon every favourable opportunity, too, the Poor-law inspector for Wales and Monmouthshire (Mr. F. T. Bircham) has pressed the matter upon the board of guardians as one of great urgency. The extensions required are estimated to cost about £13,000, and as the rateable value is high and is rapidly increasing, for within the area of the union there are extensive collieries, the expenditure of this sum would only involve an increased rate equal to ½*d.* in the £ for 30 years. In spite of this comparatively small sum the majority of the members of the Bridgend Board of Guardians have persistently refused to carry out the recommendations of their medical officer and to follow the advice of the Local Government Board inspector. A year ago when a definite motion upon the matter was before the board it was decided by 37 votes to seven to postpone the consideration of the question for a year. Subsequently a committee was appointed to report as to what were the most urgent alterations and additions required and this committee recommended the building of a kitchen and a laundry at a cost of £3500. The Local Government Board, however, refused to sanction the borrowing of this sum except on condition that the erection of an infirmary should be proceeded with, but the guardians declined to accept this condition. At a meeting of the board of guardians held on May 17th Mr. Bircham again referred to the subject and said that upon a recent visit to the workhouse he found in the sick wards 31 beds and 36 patients and that the wards swarmed with bugs. He also stated that there were no women's receiving ward, no proper lying-in ward, and no proper vagrant wards. At this same meeting Mr. Wyndham Randall presented a report from which it appears that the one nurse employed has sometimes had as many as 50 or 60 patients under her care, several of the cases being those of extremely severe and often fatal illnesses necessitating continuous watchful observation and long and careful attendance. Mr. Randall recommends the construction of a properly equipped hospital to contain at least 60 beds with accommodation for eight nurses, a lying-in ward, a convalescent room, detached wards for infectious and venereal cases, a separate ward for imbeciles with a paid attendant, and a cheerful day-room and dormitory for the children, with a paid nurse to look after them. It has been argued by some of the guardians that these extensions are unnecessary because in the future old age pensions will probably reduce the number of inmates in the workhouses, but, as Mr. Randall very properly points out in his report, there will still be a large amount of illness and of injuries with which the proposed hospital would have to deal, and with the rapid increase in the population of the district there has been, as might be expected, a corresponding increase in the number of sick persons treated in the workhouse, where only 14 deaths occurred in 1894, while there were 41 in 1901. It is difficult to believe that the conditions described, which are little short of a scandal, can be allowed to continue, and if the Local Government Board does not possess the power to alter them it is high time that such power was conceded.

The Wiltshire Medical Officer of Health.

There was a great deal of acrimony displayed at the meetings of the Wiltshire County Council three years ago when the question of appointing a medical officer of health for the county was discussed, but even those who opposed the appointment must by this time have become convinced of its necessity, for at the quarterly meeting of the council held on May 20th the salary of Mr. J. Tubb-Thomas (the medical officer of health) was increased from £500 to £600 per annum and it was decided to provide him with a clerk.

British Dental Association.

At the annual meeting of the British Dental Association, which was held at Shrewsbury on May 22nd, Mr. W. E. Harding, in his presidential address, said that the association had for many years been pressing on the Government the importance of attention to the teeth of our soldiers and sailors, and the breakdown of so many men in South Africa through preventable disease of the teeth at length induced the War Office to send out some dentists but the number was far too few to cope with the immense amount of work required. Mr. Harding also deplored the neglect to which the teeth of children attending public elementary schools are subjected and expressed the opinion that a question of such national importance ought to be dealt with by the State.

The New Factory Act and Sanitary Inspectors.

The Swansea Corporation has appointed an additional sanitary inspector whose duties will be specially connected with factories and workshops.—The Health Committee of the Rhondda Urban District Council has recommended the appointment of two additional sanitary inspectors, one of whom will be concerned with factories and workshops. Even with this additional staff there will be only seven inspectors for a population of 120,000 persons in this densely populated colliery district, although for years the Local Government Board has urged the desirability of adding to the number and in 1900 went so far as to refuse to sanction the appointment of one inspector, thus entailing on the district the loss of one half of his salary. The following year, although the conditions were unaltered, not only was sanction given to the re-appointment of the same inspector, but the Board's refusal of the previous year was withdrawn.

A Rate-supported General Hospital.

The Barry Urban District Council has already obtained the sanction of the Local Government Board to the expenditure from the rates of £14,000 upon the erection of a general hospital and the project has only been delayed on account of what it is hoped is only a temporary check in the growth of the town and therefore of its resources. It was thought, however, that in the present year an effort might be made to proceed with the building to commemorate the coronation and a plebiscite has been taken which has resulted in 1135 votes being given in favour of the scheme and 876 against it. The district council has decided, however, in view of the

small majority not to build the hospital for the present but to clear off a debt, amounting to £1000, of the nursing institution, in favour of which 1560 votes were cast and only 412 against.

Vaccination Expenditure.

At the meeting of the Bodmin (Cornwall) Board of Guardians held on April 26th it was reported that the fees paid to the public vaccinators for the past three months amounted to £80, being £50 more than for the corresponding quarter of 1901. The chairman commented on the number of persons in good positions who were revaccinated by the public vaccinators and it was suggested that a list of such persons should be made and scrutinised by the guardians in the same way as those cases receiving out-door relief.—The Honiton (Devon) Board of Guardians at its meeting held on April 26th reported that the vaccination fees for the past quarter amounted to £104 more than for the corresponding quarter of 1901 and the opinion was expressed that the law should be amended in so far as it allowed persons to be revaccinated at their own houses at a considerable extra expense to the ratepayers.—At the meeting of the Totnes (Devon) Board of Guardians held on May 17th it was reported that the cost of vaccination for the past quarter amounted to £285, against £57 in the corresponding three months of 1901.—At the meeting of the Cardiff Board of Guardians held on May 17th attention was called to the increase in the amount paid for vaccination. In 1896 the sum was £796, whereas in 1901 it had increased to £1858. One of the guardians suggested that one public vaccinator should be appointed at a fixed salary, but the clerk remarked that even if the Local Government Board sanctioned such an appointment the fees would be the same as at present.

The Walter Collection of Antiquities.

Taunton Castle is now used as a museum by the Somersetshire Archæological Society and on May 21st the Lord Lieutenant of Somerset (the Earl of Cork and Orrery) formally opened the great hall of the castle, in which extensive restorations have been made. Lord Cork also presided at the formal throwing open of the fine collection of archæological remains of the stone, the bronze, the early British, and other periods presented to the society by Mr. Walter Winter Walter, M.R.C.S. Eng., L.S.A., of Stoke-sub-Hambden, Somerset, and in the course of his speech he remarked that through the liberality of Mr. Walter they had the most valuable and best local museum in Great Britain. Mr. E. J. Stanley, M.P., proposed a vote of thanks to Mr. Walter for his munificent gift, which was seconded by the Rev. Prebendary Askwith and carried unanimously. Mr. Richard Hensleigh Walter, M.B., C.M. Edin., suitably responded for his father.

May 29th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

Royal College of Surgeons in Ireland.

A MEETING will be held at the Royal College of Surgeons in Ireland on June 2nd to elect a President, a vice-president, a council, and a secretary of the College for the ensuing year. The voting paper has been issued and it shows that Mr. Lambert Hepenstal Ormsby is the only candidate for the presidency. For the vice-presidency there are two applicants, Mr. Arthur Chance of the Mater Misericordiæ Hospital and Mr. John J. Cranny of Jervis-street Hospital. For the office of secretary there is only one candidate, Sir Charles A. Cameron, C.B. For the council eight Fellows have come forward for the vacancies caused by the retirement for various reasons of six members of the council of last year. The new candidates, in the order of their Fellowship seniority, as their names appear on the voting paper, are as follows:—Mr. John D. Hillis, Mr. Thomas Donnelly, Mr. Newell F. T. Porter, Mr. Joseph D. McFeely, Mr. Alexander J. McA. Blaney, Mr. William Taylor, Mr. Henry W. Oulton, and Mr. Thomas O'Connell Redmond. The election of examiners for the next year has recently taken place with the result that most of those who were examiners during last year have retained their places. In the subject of surgery, however, the choice of examiners has been postponed and it is understood that instead of two as at present four examiners will be appointed for the coming year. There are many applicants for the positions and some of the vacancies in the council are caused by the resignation of members who would prefer to be examiners in surgery.

D.S.O. for an Irish Army Medical Officer.

Lieutenant Williams, B.A. T.C.D., of the Indian Medical Service was last April at Singapore presented with the riband and cross of the "Distinguished Service Order" for his services with the China Expeditionary Force. He is a graduate of Dublin University and was well known in Dublin as a prominent member of the "Wanderers" football club.

Otological Society of the United Kingdom.

By permission of the Rev. the Provost a meeting of the Otological Society of the United Kingdom will take place in the Anatomical Department of the Medical School of Trinity College on May 31st. The agenda include papers by Professor D. J. Cunningham, Professor Coffey, Professor A. Birmingham, and Dr. Dempsey, all of Dublin.

Prevention of Consumption.

The annual meeting of the Ulster branch of the National Association for the Prevention of Consumption and Other Forms of Tuberculosis was held in Belfast on May 20th. Dr. James Niven of Manchester, who was announced to speak, was not able to be present, but he sent a written statement as to the means used in Manchester to combat tuberculosis, and his assistant, Dr. James Beattie, delivered an address. Belfast needs to be thoroughly aroused on this question and it is all the more urgent considering the fact that the North of Ireland occupies a deplorable position with regard to the disease, the death-rate from consumption being half as much again per 1000 as that of Lancashire where the population is so much more dense, and it is four times as great as that of the best English county.

County Antrim Infirmary, Lisburn.

A three-days' bazaar in aid of the funds of the County Antrim Infirmary was opened on May 22nd and was in every respect a great success. In 1887, in honour of the first Jubilee of the late Queen Victoria, the town and neighbourhood of Lisburn presented an ambulance and in remembrance of the Diamond Jubilee the town of Lisburn purchased the adjoining house which was formed into nurses' quarters and private wards. The object of the bazaar was to raise £1000 to make necessary changes in the infirmary so as to bring it more up to date.

Death of Mr. William Thomson, M.D. R.U.I., J.P.

Dr. Thomson died on May 21st from acute pneumonia at his residence, Anahilt House, Hillsborough, co. Down. Educated at Queen's College, Belfast, Dr. Thomson graduated as M.D. of the Queen's University in 1864. Starting practice in Lisburn he was afterwards selected as medical officer of Anahilt Dispensary District, and as late as May 20th a locum-tenent was appointed to act in his place during the illness which has unhappily ended in his death. Dr. Thomson, who was a magistrate for the county of Down, was greatly respected by his friends and patients. He has left a widow and a young family.

Armagh Sewerage Scheme.

The Armagh Urban Council proposes to borrow £5000 to carry out a sewerage scheme and new disposal works, but before agreeing to the loan the Local Government Board has decided that an inquiry must be held by its inspector.

May 27th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

Glycosuria of Muscular Origin.

AT the meeting of the Academy of Sciences held on April 28th M. Cadéac and M. Maignon reported that they had observed in guinea-pigs and dogs that the ligature of a paw or the extensive crushing of muscles always had the effect of causing the appearance of glycuronic compounds in the urine, either alone or associated with glucose, and they were thereupon induced to extend their observations to the human subject. They were thus led to the discovery that every complete fracture of the limbs was followed, both in the infant and in the adult, by the elimination of glycuronic compounds (and sometimes also of glucose), commencing in general two or three days after the accident

and continuing for three weeks or a month until the lesions associated with the fracture were entirely recovered from. Glycosuria, however, was not constant and when it occurred it was always preceded by the glycuronic products; it was always proportionate to the seriousness of the lesions and was therefore especially abundant in cases of multiple fracture. The saccharine principles thus excreted were evidently derived from the muscular system, for when an animal was killed after one of its feet had been crushed only traces of sugar were found in the healthy muscles, whereas the injured muscles contained considerable quantities of sugar.

An Interrupted Competition.

The competitions for the appointment of hospital surgeon (*chirurgien des hôpitaux*) have frequently been the occasion of scandals on a small scale and an unfortunate incident has once more drawn public attention to them. The competition, which is in progress at the present time and the examinations for which commenced a month ago, has just been suddenly interrupted by the resignation of the jury in a body. As always happens in these competitions, no sooner had the drawing of lots made known the names of the jurors than the competitors were able, on the principle of the *esprit de corps* of the various schools, to forecast who would be successful. But complications were not slow to arise among the jury, for one of the jurors saw with regret that two of his pupils who were competing were doomed to fail and then the incident occurred. Operative surgery on the dead body was the subject of examination and the operation required by the jury was "ligature of the femoral at the ring" (*ligature de la fémorale à l'anneau*). The question was ambiguous, for some of the candidates understood that the artery was to be ligatured at the femoral ring (*anneau crural*), while others understood that it was to be ligatured at the ring in the third adductor muscle of the thigh (adductor magnus), otherwise described as at its escape from Hunter's canal. Among the former were especially the candidates who had already been entrusted with the teaching of operative surgery at the Faculty of Medicine, where the expression "*ligature à l'anneau*" habitually signifies ligature at the femoral ring. The other candidates recollected that in the previous year the question had been expressly set as ligature at the femoral ring, and thinking that the intention of the examiners would be to avoid setting the same question at two competitions in succession, they performed ligature of the vessel at the other ring. One of the candidates even turned to the jury and asked "Which ring?" but no reply was given. Two of the candidates in their agitation opened the artery while searching for it. After the operation there was an animated discussion among the members of the jury, for some of them perceiving after all that the question was not plain, wished that portion of the examination to be cancelled, whilst others—namely, those whose *protégés* had guessed correctly—wished it to stand good. In the result the jury being divided into two equal parts decided on resigning—a course of action which would cancel the whole competition and require everything to be begun over again with another jury. The news caused a great scandal in the medical world and the incident was freely commented on even by the non-medical press. M. Mourier, director-general of the Assistance Publique, then assembled the jurors in his office and declined to accept their resignation. The competition therefore continues and is in progress at the present moment, but the chances of success of the various competitors are now very different from what they were before these singular proceedings.

Obituary.

Dr. Polaillon, honorary surgeon-in-chief of the Hôtel Dieu and member of the Academy of Medicine, died on May 24th. Dr. Beaudron, who held a hospital appointment as obstetric physician, died on May 23rd, aged 38 years.

May 27th.

SWITZERLAND.

(FROM OUR OWN CORRESPONDENT.)

The Influence of Diet on the Secretion of Hydrochloric Acid in the Stomach.

AT the last meeting of the Medical Society of Zürich Professor Cloetta read a paper on an Experimental Investigation as to the Influence of Diet on the Secretion of Hydrochloric Acid. Selecting four healthy puppy dogs he fed two of them exclusively on milk diet (adding the necessary iron salt) and the other two only on meat diet, of which they had 500 grammes (18 ounces) per diem. All of them grew equally well. After three months lavage of the stomach was performed; the stomachs of the dogs fed on milk were found to contain no hydrochloric acid whatever, but the stomachs of the dogs fed on meat diet contained 0·1 per cent. free hydrochloric acid. Three months later an examination gave the same result but the free hydrochloric acid had in the second case increased to 0·25 per cent. The animals were killed and the mucous membranes were immediately prepared for minute and detailed microscopic examination. No difference whatever could be detected in the microscopic structure. Professor Cloetta suggests that the secretion of hydrochloric acid deserves further investigation and that the nervous system plays an important part in cases of hyperchlorhydria.

Fracture of the Carpal Scaphoid Bone.

Dr. C. Kaufmann of Zürich has published an interesting *résumé* on cases of isolated fracture of the scaphoid bone. His assistant, Dr. Höfliger, published seven such cases last year, Dr. Baer and Dr. Ziegler have reported one each, and Dr. Kaufmann can now add four more, thus making a total of 13. It is very desirable that the surgical out-patient departments of hospitals should pay due attention to cases of so-called distortion of the hand and have skiagrams made of those where a fracture was possible or probable; they doubtlessly occur fairly frequently and it would be of great interest to examine the cases immediately after the fracture occurred. Dr. Kaufmann's most recent case had taken place four weeks previously to his seeing the patient and being able to make the diagnosis. In severe cases the symptoms consisted of stiffness of the joint, radial abduction of the hand, and pain and thickening, or even crepitus, over the scaphoid bone. In some cases, especially those of simple transverse fracture, the bone heals well and the only remaining symptom for months afterwards is pain on movement. A fall on the hand stretched forward produces typical fracture of the radius and a fall on the hand stretched backwards may produce isolated fracture of the scaphoid bone. The prognosis is good. The transverse fracture heals without treatment. Massage and active and passive movements promote recovery. Displacement of fragments or pseudarthrosis may prolong or impede recovery. In the latter case operative interference becomes necessary. Dr. Kaufmann now performs resection of the distal portion of the fractured bone after a dorsal incision in the so-called "tabatière"—i.e., the recess lying between the extensor tendons of the thumb. In legal cases coming under the Workmen's Act, the working power of a man whose scaphoid bone has been fractured is diminished by one-third in the first year, one-fourth in the second, and one-sixth to one-tenth in the third year, progressive improvement being the rule. Thus, one or one and a half years' wages form an adequate remuneration for insured workmen suffering from this fracture.

Zürich, May 24th.

CANADA.

(FROM OUR OWN CORRESPONDENT.)

Samaritan Free Hospital for Women, Montreal.

THE annual meeting of the Board of Managers of the Montreal Samaritan Free Hospital for Women was held recently in that city and according to the reports presented there were treated in that institution during the past hospital year 133 patients, an increase of 20 compared with the previous year. In the outdoor department of the hospital over 200 received free advice and treatment. Among the total number treated there were five deaths, a decrease in comparison with the previous year. The treasurer's report showed an encouraging condition of the finances. Commencing with a balance to the good at the beginning of the year of $455·52, the receipts totalled $3733·74 and the expenses $3149·75.

A Montreal Physician Honoured.

At the recent meeting of the Association of American Physicians, held at Philadelphia, U.S.A., Dr. James Stewart, Professor of Medicine and of Clinical Medicine in McGill University, Montreal, was elected to the presidency of that prominent American organisation. Dr. Stewart is a graduate of McGill University. From 1883 to 1891 he was Professor of Materia Medica and since that time he has held the chair

of Medicine. He is a member of the Board of Trustees of the National Sanitarium Association.

Canadian Physicians receiving British Appointments.

Dr. J. M. Jory, St. Catherine's, Ontario, and Dr. D. M. Anderson, house surgeon to the Toronto General Hospital, have been appointed surgeons to the fourth Canadian contingent for South Africa. Dr. Harry W. Spence, formerly house surgeon to the Toronto General Hospital, has been appointed by the British Government medical officer of one of the concentration camps in Natal, South Africa. Dr. H. A. Beatty, M.R.C.S. Eng., of Toronto, has lately received a cablegram offering him the surgical registrarship of the Westminster Hospital in London. Dr. Beatty has recently returned to Toronto after spending four years in post-graduate study abroad and he was lately senior house surgeon at Westminster Hospital. Dr. Beatty is a graduate of Toronto University.

Canadian Association for the Prevention of Tuberculosis.

The annual meeting of the above association was held in Ottawa in the latter part of April under the presidency of Sir James Grant. Prominent medical men were present from all the provinces of the Dominion. Dr. S. A. Knopf of New York delivered an address on the Mission of the Societies for the Prevention of Consumption in the Anti-Tuberculosis Crusade. It was decided to centralise the organisation at the capital and to have a permanent paid secretary. One important outcome of the conference has just been announced. Sir William Macdonald (Montreal) and Mr. W. C. Edwards, M.P. (Ottawa), have offered to erect at their own expense sanatoriums for consumptives near their respective cities. The following were the officers elected for the ensuing year: President, Mr. W. C. Edwards, M.P.; secretary, Dr. H. B. Small (Ottawa).

Canada and Diseased Immigrants.

There has recently been advanced a great deal of objection to the Canadian Government permitting diseased immigrants to find homes in Canada. As a result of the agitation the Government has now before the House of Commons a Bill proposing to amend the Immigration Act and conferring power on the Governor in Council to prohibit by proclamation or order the landing in Canada of persons suffering from dangerous or infectious diseases, having special regard to trachoma and favus. Permission will be given to them to land for medical treatment only and for a period that may be determined by the order or proclamation. This action of the Government has been brought about through the appointment last September by the United States Immigration Department at Washington of a special examining board at the port of Montreal which passes judgment upon all candidates destined for places in the United States. A good many of these immigrants have been rejected by this board and have found homes for themselves in Canada.

Deaths from Tuberculosis in Ontario in 1900.

According to the report of the Registrar-General of Ontario which has only recently been given to the medical profession this disease has maintained its pre-eminence during 1900, having caused no less than 3484 deaths. The excess in cities is notable, there having been recorded 1081 deaths in a population of 475,222. The rate per 1000 for cities is 2·27, as compared with 1·59 for the entire province, or 1·4 for the rest of the province outside the cities. In Ontario the deaths of all infants under four months when no specific cause other than atrophy, malnutrition, marasmus, or scrofula was given have been entered under tuberculosis, and in this way the rate is high and probably relatively higher than in other countries which do not place deaths from these conditions under tuberculosis.

Deaths from Cancer in Ontario in 1900.

The total deaths recorded as due to this disease in the Province of Ontario in 1900 were 1055 as compared with 1041 and 975 for the two preceding years. The following figures show that cancer has increased by 100 per cent. in the past decade. In 1891 the deaths reported were 579; in 1892, 676; in 1893, 678; in 1894, 621; in 1895, 620; in 1896, 731; in 1897, 927; in 1898, 975; in 1899, 1041; and in 1900, 1055. The exact ratio of deaths from cancer to the total deaths was one to 37 in 1891 and one to 28 in 1900. Out of the 1055 deaths in 1900 from this cause 329 occurred in the 14 cities of the Province.

Toronto, May 5th.

NEW YORK.

(FROM OUR OWN CORRESPONDENT.)

Three Important Congresses.

THREE important congresses are to be held in the United States under the plans proposed by the Pan-American Conference held in Mexico last winter, to carry into effect long-needed coöperation between all the Governments in the Western Hemisphere in sanitary and customs regulations, and to consider the coffee crisis. The first, the Sanitary Congress, will meet in Washington on Oct. 1st, and the other two in New York City, the Customs Congress on Oct. 15th, and the Coffee Congress on Nov. 1st. The programme for the first congress, to which all the republics have arranged to send technical delegates, is now being prepared by Surgeon-General Wyman of the Marine Hospital Service. It is proposed to establish an "International Sanitary Bureau" of experts to sit permanently in Washington to protect the public health of the republics and thereby to facilitate their commercial relations at all seasons. The bureau is to consider and to decide on all measures intended to prevent the spread of contagious diseases between the republics, or their invasion from outside, by the establishment and maintenance of a uniform system of international inspection, disinfection, and detention for persons or merchandise coming from abroad by land or sea, by means of sanitary stations in the ports of each country which shall be entirely under the control of the respective Governments. It is proposed that prohibitive quarantine shall be discontinued in regard to manufactured articles and all other merchandise; that merchandise proceeding from non-infected ports and places but coming through infected districts without stopping longer than the transit itself requires shall not be subject to detention or to any other sanitary precaution except the indispensable inspection at the point of destination, and that this inspection and the delay that it requires shall in no case exceed the time absolutely necessary to carry it out properly. These rules are to be made applicable to merchandise coming by rail but they are not to be enforced in regard to cattle, raw hides, rags, and the effects belonging to immigrants, which are to be dealt with as before. The Customs Congress at New York will be composed of delegates appointed by each Government from among its chief customs officers, consuls, presidents or members of its chambers of commerce, and prominent merchants or other persons known to possess technical or special knowledge in customs matters. Among the matters which the congress is to consider are uniformity of regulations for the entry, despatch, and clearance of the vessels engaged in international commerce, uniformity and simplicity of customs, formalities relating to the manifests of vessels and to the wording and form of consular invoices and custom-house declarations, and formalities for the clearance of merchandise and baggage. Adequate means are also to be considered for establishing a common nomenclature of the products and merchandise of the American republics in English, Spanish, Portuguese, and French, in order that it may serve as a basis for the statistical data of imports and exports in accordance with a uniform system and without interfering with the regulations which each country may have adopted for the compilation of its own statistics, and in order that it may be adopted with greater detail and specification in the tariff schedules and in the other customs laws of the said countries and that it may serve as a basis for the collection of the dues that each republic may have established. Also for the organisation of a permanent Customs Commission composed of individuals possessing technical and special knowledge which, as a branch of the International Bureau of the American republics or in any other form that the congress may think proper, shall be charged particularly with the execution of the customs and tariff laws of the nations of America for the purpose of suggesting to the respective Governments the enactment of laws and regulations which, in so far as they relate to custom-house formalities, shall tend to facilitate mercantile traffic.

Reciprocity in Medical Licensure.

During the month of January last there was held in the city of Chicago a meeting of representatives of the examining boards of Illinois, Wisconsin, Indiana, and Michigan, at which was appointed a committee to formulate a policy

for reciprocity in licensure between the several United States. The following propositions submitted by this committee at the meeting were adopted. First, that a licence or certificate of qualification of at least one year's date and based upon presentation of a satisfactory diploma and an examination before a board in specified branches of medicine and surgery may be accepted at the discretion of the board in lieu of an examination, and as a basis on which the licence of the State may be issued. Secondly, that a licence or certificate of qualification issued by a State board of registration or by medical examiners as to the reputability of the applicant may be accepted at the discretion of a board in lieu of an examination and as a basis upon which the licence of the State may be issued. Owing to the differences which exist in the laws of the several States with regard to medical licensure it was only possible for the confederation to recommend the policy upon which the reciprocal exchange of certificates must be arranged between the States reciprocating; also the standard of preliminary education as well as that of the medical qualifications of licentiates must be a matter of agreement between reciprocating States.

Proposed Union of the Medical Societies of the State of New York.

The Council of the State Medical Association and the State Medical Society of New York State have appointed committees to confer on the question of a union of the medical profession of the State. No date has yet been set for the conference, which will undoubtedly mean much to the future of the State medical organisations. The Medical Society of the County of New York is but one of many such societies, all of which are parts of the Medical Society of the State of New York. This system of medical societies was created by Act of Legislature in 1806; in 1882 the State Medical Society abolished what is called the code of ethics by a substantial majority, thus allowing its members the privilege of meeting any legal practitioner of medicine in consultation. The American Medical Association, of which the State and county medical associations are parts, was organised as the result of a convention held in this city in 1846.

No Quarantine against Cuba.

For the first time in many years the port of New York is not quarantined against Cuban ports; this is the season when such quarantine has been rigidly enforced. But there is no yellow fever in Cuba and every effort is being made to keep the island entirely free from it this season. In fact, there is reason for quarantining Cuba against New York, there being danger of carrying small-pox from this port to the Cuban ports. This proves the great advance in sanitary matters secured in Cuba in the last few years.

May 19th.

DONATIONS AND BEQUESTS.—Under the will of Miss Harriet Gosling £300 are bequeathed to the Middlesex Hospital.—The late Mr. Benjamin Weir, for many years chairman of the Board of Works, has bequeathed the whole of his property under trust for the founding of a hospital for Balham and Streatham.

THE PUBLIC VACCINATOR AND THE PUBLIC.—The Holywell (Flintshire) Board of Guardians, at a recent meeting, made some allusions to persons who employed the public vaccinator when they could well afford to pay for the operation. The chief constable of Flintshire, in a letter addressed to the guardians, has since then stated that he pays towards free public vaccination, which is not simply pauper vaccination, and as he is a member of the public he contends that he and his family are entitled to be vaccinated at the cost of the rates to which he has for years paid and from which hitherto he has derived no personal benefit.—At a recent meeting of the Cardigan Board of Guardians a motion was passed to publish a list of well-to-do persons who had been vaccinated by the public vaccinator. The attention of the Local Government Board having been drawn by a local correspondent to the matter a reply was received stating that the Board was not aware of any legal authority under which the guardians could pay for such lists, and any person whose name was published in such list would have good ground for complaint against the guardians, as it was the intention of the Legislature that the benefits of vaccination should be open to all classes of the population, and the Board strongly deprecated any such action on the part of the Cardigan Guardians.

THE GENERAL COUNCIL OF MEDICAL EDUCATION AND REGISTRATION.

THE seventy-fourth session of the General Council of Medical Education and Registration was opened on Tuesday last, May 27th, at the office of the Council, Sir William Turner, K.C.B., the President, being in the chair.

The *personnel* of the Council at this session is the same as it was at the special session in February last.

In a business-like introductory address Sir William Turner outlined the work that lay before the Council and obviously hoped that the session would be a brief one. And in view of the fact that a special session of the Council has already been held this year the Council no doubt desires, if possible, to complete its work by the end of this week.

It is clear that the Council intends to use to the full its powers to maintain a uniformly high standard of preliminary medical education. The examinations in chemistry, physics, and biology conducted by the various licensing bodies are to be systematically reported upon. As the President pointed out, physics and biology have been added to the medical curriculum since any official inquiry has been made as to the standard of the various licensing bodies with regard to the ancillary fundamental sciences, while no visitations of the examinations in chemistry have been made for 20 years, not, in fact, since the medical and surgical corporations in the United Kingdom were reported upon in 1881–82.

An interesting debate arose on Tuesday with regard to a communication received from the Council of the British Medical Association asking the General Medical Council to receive a deputation to consider the subject of the preliminary education of the medical profession. The communication took the form of a report from the Preliminary Education Committee of the Association and was referred to the Executive Committee of the Council. This body considered that the report of the Preliminary Education Committee of the British Medical Association ignored all the work hitherto done by the Council in this very direction and recommended that the deputation should not be received. Mr. Horsley protested against this and as a result of the debate it would seem that the committee of the Association had not intended their report to convey a slight upon the obvious energy of the present Council in the direction of improving preliminary education. We are glad that this feeling prevailed in the Council and that it has been decided that the deputation shall be received by the Education Committee of the General Medical Council.

On Wednesday the time of the Council was mainly occupied in the hearing of penal cases. The first and most important case, that of Dr. Marcus Robert Phipps Dorman, was considered *in camerâ* in the interests of persons other than the complainant and the accused. This procedure is, we believe, an innovation, but in the circumstances it was a wise one and one that may well be followed in similar cases should they unfortunately occur.

TUESDAY, MAY 27TH.

THE seventy-third half-yearly session of the General Council of Medical Education and Registration was opened to-day in the Hall of the Council, Oxford-street, London. The 31 members constituting the Council were all present. Sir WILLIAM TURNER, K.C.B., the President of the Council, occupied the chair.

The President's Address.

The PRESIDENT opened the proceedings with an address. He said:—

During the present session the reports of the inspector and visitors on the final examinations held by the University of Dublin, by the Conjoint Board of the three Medical and Surgical Corporations in Scotland, and by the Royal University of Ireland will be submitted to you. It is satisfactory to read that the visitor and inspector report in each case that the examination is "sufficient," and to observe that their criticisms refer to questions of detail. The scheme of inspection during the present year of the final examinations of the English Universities and the Irish Corporations has been arranged and members of Council have consented to act as visitors along with the inspector. Arrangements are also being made in accordance with the resolution of the Council (Minutes, Feb. 26th, 1902), for a visitation of the next examination in chemistry, physics, and biology of the Conjoint Examining Board of the Royal College of Physicians of London and the Royal College of Surgeons of England. By a further resolution the Council empowered your President and treasurers to arrange for a suitable remuneration to the gentlemen who are to act as visitors of this examination. It will be necessary to obtain the sanction of the Privy Council. The Council by its resolution of Feb. 26th has also intimated that it is desirable to have the examinations in chemistry, physics, and biology conducted by the licensing bodies generally, visited and reported on. Since physics and biology became a part of the medical curriculum no visitations of the examinations in the ancillary sciences have been made.

Since the special meeting of the Council in February the Bill for "the better training of midwives and to regulate their practice" has passed the second reading in the House of Commons and was referred to the Grand Committee on Law with certain additional members. Amendments prepared in consultation with the Midwives Bill Committee of the Council were moved by Sir John Batty Tuke, as also amendments by other members. The Bill, however, passed the Committee with but little change. The Grand Committee will report on the Bill on June 6th and it will probably be read a third time on June 13th. Owing to the pressure on the time of Parliament by the introduction of measures of more general scope and interest no progress has been made in Parliament with the Penal and Disciplinary Bill prepared by the Council some time ago and read for a first time during two sessions.

The Council will receive during the session reports from its own committees on various questions which have from time to time been referred to them. The Financial Relations Committee will make suggestions to provide for an increase in the income of the Council. Since a maximum registration fee of £5 was fixed by the Act of 1858 not only has the number of Members of Council been materially increased by the Direct Representatives elected by the profession and by additional members chosen by the Universities but the duties to be discharged by the Council have also multiplied. Although the value of the assets of the Council has materially increased through the rise in the value of its property in Oxford-street and Hanover-square its income has not improved and under present arrangements does not meet the expenditure. The Financial Relations Committee will therefore submit proposals for your consideration.

The Public Health Committee will again report on the question of the amount of outdoor or practical sanitary work to be done and on the distribution of the time to be given by candidates for a registrable diploma in public health.

The business of a penal and disciplinary character demanding the attention of the Council is more than usually heavy, but it is gratifying to find that no registered practitioner is to be charged with the offence of covering and no new case of a practitioner associating himself with medical aid societies which systematically canvass for patients will have to be considered.

An Indian edition of the Addendum to the British Pharmacopœia has been published, and the Government of India has purchased the greater part of the first issue of 4000 copies.

We have been requested by the Privy Council to send a delegate to an International Congress to be held in Brussels on the subject of a proposed International Pharmacopœia limited to drugs of a dra tic nature. At the May session held in 1900 I was authorised to appoint one or more members to act as delegates and the chairman of the Pharmacopœia Committee has consented to represent the Council.

As a result of the extension of Part II. of the Medical Act (1886) to Italy a list of foreign practitioners appears for the first time in the Medical Register; the name and qualification of one practitioner are enrolled in the published volume and a second practitioner has subsequently been registered.

On the motion of Dr. MACALISTER, seconded by Mr. BRYANT, the Council thanked the President for his address.

Business Committee.

This committee was constituted as follows: Dr. MacAlister (chairman), Mr. Bryant, Dr. Bruce, and Sir Christopher Nixon.

Results of Examinations.

Mr. H. E. ALLEN, Registrar, presented to the Council the following documents:—

(*a*) Table showing results of professional medical examinations during 1901.
(*b*) Table showing results of professional examinations for qualifications in sanitary science, public health or State medicine during 1901.
(*c*) Table showing results of professional dental examinations during 1901.
(*d*) Table showing results of preliminary examinations during 1901.
(*e*) Answers sent by the medical authorities as to the exemptions granted by them in any part of their examinations during the year 1901.
(*f*) Table showing results of competition held on Feb. 3rd, 1902, for commissions in the medical staff of the Royal Navy.
(*g*) Table showing results of competition held in August 1901, for commissions in the Indian Medical Service.

The documents were formally received and entered on the minutes and on the motion of Dr. P. HERON WATSON, seconded by Sir CHRISTOPHER NIXON, it was agreed—

That the thanks of the Council be conveyed to the Director-General of the Medical Department of the Royal Navy and to the Under-Secretary of State for India, respectively, for the returns which they have respectively again furnished to the Council, with the request that these returns may in the future continue to be furnished to the General Medical Council.

Mr. BROWN moved that the answers sent by the medical authorities as to the exemptions which they had granted should be referred to the Examination Committee.

Mr. JACKSON seconded this motion.

Mr. BALL called attention to a footnote to table (*a*) which he said savoured of what was called an Irish bull, though it lacked some of the essentials. This footnote said that "candidates who presented themselves in all the subjects but who omitted some are included in above." This referred to the examination of the Conjoint Board in Ireland and he was told by the registrar of that body that what it really meant was that candidates who were examined in some subjects and who passed or were rejected in those subjects were included in the list although they might not have covered the entire number of subjects which would justify their passing the whole examination. This raised an important question as to the value of these tables, because they contained lists of those who were rejected in parts of the examination and who passed in parts, so that it was quite possible that some candidates were returned as being rejected and as having passed at the same examination. There was another point, and that was the very large number of rejections apparently at the Conjoint Boards in Ireland and in Scotland. This was to a certain extent made up of men who were rejected over and over again and figured as a rejection each time they came up. In order to estimate properly the value of the figures in the table he thought it very desirable to know exactly what was the number of men who passed or failed to pass at their first trial and what the number of men who came up time after time for examination. Later he would move a resolution on the subject desiring this information from the various licensing bodies.

Mr. HORSLEY pointed out that the answers of the bodies made no reference to exemptions in the higher examinations and that in this respect they failed to meet the wishes of the Council.

The motion of Mr. BROWN was then put from the chair and agreed to.

Appointment of Assistant Examiner.

On the motion of Sir HUGH BEEVOR it was agreed:—

That Mr. Francis James Steward, M.B., M.S., F.R.C.S., be appointed an assistant examiner in surgery to the Apothecaries' Society of London for a period of four years, *vice* Mr. L. A. Dunn who retires by rotation.

The Midwives Bill.

The next order on the paper was the following notice of motion by Mr. BROWN:—

That in the opinion of the Council the Midwives Bill, as amended by the House of Commons Grand Committee on Law, does not contain the

safeguards necessary to protect the public against the practice of midwifery by ignorant and incompetent persons.

Mr. BROWN asked leave to have consideration of this proposal deferred until the Council had received from the Midwives Bill Committee a report on the remit made to them as respects the Bill during the special session of the Council held last February. He formally moved to that effect.

Mr. JACKSON seconded and the motion was agreed to after a remark by Sir CHRISTOPHER NIXON that it was a little late in the day to take action on this matter at all.

Dental Business.

The REGISTRAR (Mr. H. E. Allen) read the following report from the Executive Committee on the dental business transacted since the November session of the Council:—

The prescribed conditions in each case having been duly fulfilled the names of the undermentioned persons have been restored to the Dentists' Register, from which they had been erased in conformity with the provisions of Section 12 of the Dentists Act:—Francis G. Bridgman, William Brown, George P. Caldwell, Frank H. Carpenter, Samuel Earp, Henry J. A. Geercke, James Hitchcock, Percy B. Hutchinson, Francis Jones, George H. Jones, Francis Lloyd, James A. Milliken, John C. Oliver, Henry J. Parker, Charles E. Tucker, John W. Wheeler.—The treasurers laid before the committee the usual statements of accounts duly audited of the receipts and expenditure of the dental fund of the General Medical Council for the year ending Dec. 31st, 1901, and directed that the summary be laid before both Houses of Parliament.—The committee considered an application for the registration as an additional title of the degree of bachelor of dental surgery of the University of Birmingham, and referred the question to the Dental Education and Examination Committee, with a request that it should report thereon to the Council during the present session.

In moving that the foregoing report should be received and entered on the minutes Dr. MACALISTER mentioned that from an examination of the regulations proposed by Birmingham University the committee thought that the University's new degree would be one worthy of their recognition.

Financial Relations.

Consideration of this subject was put off till Friday in consequence of the report of the committee not being ready.

Prevention of Personation.

On the suggestion of Mr. HORSLEY it was resolved to consider on another day the remaining portion of the report of the Committee on Prevention of Personation, the comments of the Registrars on the proposals of the committee to be meanwhile printed and circulated.

The British Medical Association and the Preliminary Examination.

The REGISTRAR read the following report from the Executive Committee on a communication from the Council of the British Medical Association:—

Report by the Executive Committee on certain communications from the British Medical Association in regard to a proposed deputation on the subject of preliminary general education.

The committee on May 20th, 1902, received the following communications from the British Medical Association requesting the Council to receive a deputation on the subject of the preliminary general education of the medical profession.

(*a*)

"British Medical Association, General Secretary's Office,
"429, Strand, London, W.C., May 5th, 1902.

DEAR SIR,—At a meeting of the Council of the British Medical Association, held on Wednesday, April 16th last, a report was presented on the preliminary general education of the medical profession, and it was resolved that the General Medical Council be requested to receive a deputation on the subject.

I shall be glad if you will let me know when it will be convenient for the General Medical Council to receive the deputation.

I am, Sirs, yours faithfully,
The Registrar, General Medical Council. FRANCIS FOWKE.

The deputation to consist of the following:—The President (Dr. G. B. Ferguson), Cheltenham; the President Elect (Mr. Walter Whitehead), Manchester; the President of Council (Dr. J. Roberts Thomson), Bournemouth; the Treasurer (Mr. Andrew Clark), 71, Harley-street; Dr. T. Bridgwater, Framfield, Sussex; Professor J. W. Byers, M.D., Belfast; Mr. James Cantlie, 46, Devonshire-street, W.; Professor D. W. Finlay, M.D., Aberdeen; Sir Walter Foster, M.D., M.P., 30, Grosvenor-road, Westminster; Mr. T. R. Jessop, Leeds; Mr. N. C. Macnamara, 21, Grosvenor-street, W.; Sir John Wm. Moore, M.D., Dublin; Dr. R. W. Philip, Edinburgh; Dr. F. M. Pope, Leicester; Dr. T. G. Roddick, Montreal; Dr. Markham Skerritt, Clifton; Mr. T. Jenner Verrall, Brighton; Dr. Maury Deas, Exeter; Mr. W. F. Haslam, Birmingham; Mr. Victor Horsley, F.R.S., 25, Cavendish-square, W.; Dr. C. R. Milburn, Hull; and Mr. Jones Morris, Portmadoc."

(*b*)

"British Medical Association, General Secretary's Office,
429, Strand, London, W.C., May 26th, 1902.

DEAR SIR,—In reference to my letters of the 5th and 22nd inst., I forward to you herewith a copy of the report that it is the desire of the deputation from the council of the Association to present to the General Medical Council. I am, yours faithfully,

FRANCIS FOWKE, General Secretary.

H. E. Allen, Esq., Registrar, General Medical Council."

"BRITISH MEDICAL ASSOCIATION.

REPORT OF THE PRELIMINARY EDUCATION COMMITTEE.

The Committee has come to the following conclusions:

(1) That it is essential, in the interests both of the public and of the profession, that there should be an adequate guarantee that every registered medical practitioner has received a liberal education such as would entitle him to be regarded as a member of a learned profession.

(2) That at present, with the existing requirements of the General Medical Council and with the variations in the scope and standard of the various preliminary examinations for medical students, there is no such adequate guarantee.

(3) That the General Medical Council, by its action in 1898, recognised that the minimum standard of general education was too low and expressed its desire that it should be raised considerably, mentioning a standard of requirement represented by the senior local examinations of the several universities.

(4) That since the above date practically no progress has been made in the direction of adequately raising the standard of the examinations recognised by the General Medical Council.

(5) That this committee is of opinion that the time has come for the British Medical Association to take up this important subject and to use its power and influence towards obtaining the needed reform. With this view the committee makes the following recommendations:—

(*a*) That it is undesirable that anyone should be registered as a medical student until he or she has attained the age of 17.

(*b*) That the standard of the examination in preliminary general education required by the General Medical Council should be suitable for candidates of 17 years of age, and not lower than that required at present for the Oxford or Cambridge Senior Local Examinations.

(*c*) That the examination should include a pass and an honours division as in the university local examinations, the subjects for the pass to comprise at least Latin, mathematics (comprising arithmetic, algebra, and geometry); English grammar, literature, and essay writing; history; geography; and either French or German; the honours division to include Greek and physical science as compulsory subjects.

(*d*) That the present system of multiple examining boards is most undesirable and that it is essential in order to secure uniformity of standard that the Medical Acts should be amended so that the General Medical Council should be empowered to appoint a single examining board, which should hold its examinations as often as necessary, at multiple centres simultaneously.

(6) That a copy of this report be forwarded to the General Medical Council and that the General Medical Council be asked to receive a deputation from the Council of the British Medical Association, in order to confer with them on this important matter.

429, Strand, W.C., May 10th, 1902."

It was resolved:—In view of the facts (1) that the subject of the preliminary general education of medical students has for some years been under the careful consideration of the Medical Council; (2) that important steps have recently been taken by the Council with the object of raising the standard of such education; (3) that the new regulations on this behalf came into force on 1st January, 1902; and (4) that there has not yet been sufficient time for these important changes to produce their full effect, the Executive Committee are of opinion that it would not be opportune to reopen the whole question at the present time, and are unable to recommend that the suggested deputation should be received by the General Council.

As, however, it would appear from the conclusions of the Preliminary Education Committee of the British Medical Association that the body is unaware of the various reports and resolutions adopted by the Council since 1898, the Executive Committee recommend that copies of these should be forwarded to the Council of the British Medical Association for their information.

Mr. HORSLEY thought that this report was worded most unfortunately. It was certainly worded in absolute ignorance of the facts with which the deputation proposed to deal and he therefore now wished to move that the Council receive the deputation.

Sir CHRISTOPHER NIXON was willing to second provided Mr. Horsley substituted "Education Committee" for "Council."

Mr. HORSLEY was willing to make this alteration.

On the suggestion of the PRESIDENT that the first thing to do was to put it on record that they received the report,

Sir JOHN BATTY TUKE moved:—

That the report be received and entered upon the minutes.

Mr. HORSLEY took exception to the last sentence of the report—that beginning with the words, "As, however, it would appear"—and he moved its deletion. He said that the sentence was not true and he did not wish that anything should go on to the Council's minutes that could not be substantiated.

Dr. MACALISTER maintained that the sentence was quite in order. What the Executive Committee referred to in it were the following words of the memorialists: "(4) Since the above date practically no progress has been made in the direction of adequately raising the standard of the examinations recognised by the General Medical Council." He contended that the whole of the reports adopted since 1898 were in the direction of progress, and yet all of them appeared to be ignored by the words of the memorialists which he had just quoted. That being so he thought the Executive Committee was perfectly justified in submitting the sentence taken exception to.

Mr. HORSLEY did not think so. The subject, he explained, had been brought before the Council of the British Medical

Association by practitioners in the West of England, who formed a committee in their own district, who had passed resolutions which were practically embodied in the report just read, who were intimately acquainted with every single fact in all the reports of the General Medical Council, and who had carried out a careful and minute study of these reports. To adopt such words as he was taking exception to was therefore almost an insult to them. It would be seen that in writing as they had done they had in view not the members of the General Medical Council but the members of the association to which they belonged and he considered that in the general statement made they were absolutely accurate. There was no proof that the standard of preliminary general education had been raised at all and therefore the memorialists were perfectly justified—more than justified—in the statements submitted to the Council and the sentence he objected to should not be passed, because these gentlemen of the West of England were as well acquainted with the facts as the members of the Council were themselves.

Mr. JACKSON seconded the proposal.

Mr. BROWN opposed the amendment on the ground that the entire report should go upon the minutes as a historical record of the Executive Committee's expression of their view regarding allegations of a body representing the medical profession.

Sir JOHN BATTY TUKE said that they had only Mr. Horsley's word for it that the memorialists understood the question, because there was evidence in the matter of the document as well as in the terminology employed which showed that they were in a most extraordinary state of ignorance. They had ignored the history of the last 40 years; they had ignored the fact that when the Council was constituted the condition of preliminary examinations comparatively with those of to-day was far from satisfactory. Gradually the General Medical Council had been able to put pressure on the various examining bodies, with the result that a certain amount of efficiency had been attained to, but during the last 10 years the Council had taken steps which, he believed, would produce very important results indeed. But what struck him most of all was that the memorialists had not been able to extract from the reports they were said to have examined the fact that the Council and its Education Committee had found it impossible in present circumstances to raise the standard of preliminary general education higher than it was at present because of the risk of depleting the profession to the serious danger of the public. He could assure them that everything possible had been done in the direction of progress. They had consulted the highest authorities on education; they had considered and re-considered and had gone as far as the inchoate condition of general education in England, and especially secondary education, would allow them to go. New and improved methods had come into operation this year, but the Council could not tell at once what would be the result of them. They would need to wait two or three, perhaps four or five, years to ascertain what the effects would be, but they had to do something more: they must wait to see what would be the results of the Education Bill at present before Parliament—a Bill that must necessarily do a great deal towards the improvement of secondary education in this country. That was a matter which the General Medical Council could not force, therefore his feeling was that the Council of the British Medical Association in coming to the conclusion put forward in its resolutions had on this occasion ignored the main fact—namely, that the General Medical Council had gone as far as it could in the present circumstances.

Dr. ATTHILL said that as a member of the Executive Committee he had agreed to the sentence objected to which had been passed after due consideration and deliberation. He personally knew that the standard of preliminary examination in Ireland had been raised very considerably and he did think that the memorialists had not been fully aware of what had been done by the Council when they framed their representation.

Dr. MCVAIL pointed out that it would serve no purpose whatever to strike out of the Executive Committee's report now before the Council the sentence taken exception to, because, even though struck out of that report it would appear as part of the minutes of the Executive Committee, which were open to the public, being bound up along with the minutes of the General Council. In the matter of form consequently he must oppose the amendment.

Mr. HORSLEY, because of what Dr. McVail had just said, asked leave to withdraw the amendment. He, however, asked to be allowed to reply to Sir John Batty Tuke.

The PRESIDENT ruled that this would not be in order.

Mr. HORSLEY hoped that in these circumstances Sir John Batty Tuke would repeat his statements before the next meeting of the British Medical Association.

Dr. MACALISTER wished to emphasise this, that the standard of preliminary examination in general education for medical students had been very much raised indeed, as any member of Council could ascertain for himself on inquiry. He held in his hand at that moment a document relating to the examination instituted by the College of Preceptors which showed that while 47 candidates presented themselves for examination only six were able to fulfil the requirements. That, he thought, would be repeated very generally so soon as the new regulations were enforced. Outsiders like the memorialists could not possibly have the means of knowing what the result of the steps taken by the Council was going to be, therefore he gave no weight whatever to the opinion passed on that matter by the memorialists.

The motion that the report should be received and entered on the minutes was then adopted.

Mr. HORSLEY thereupon moved—

That the Education Committee receive on behalf of the Council the deputation from the Council of the British Medical Association on the subject of the preliminary general education of medical students.

He said that he was glad he had brought forward this matter because it had extracted valuable information. Over and over again they had been told that the Education Committee was in possession of information which was not given to the Council itself. That had been repeated in the course of this discussion and consequently he thought that if they had the memorialists before them to tell what they did know the Council would be doing a service not only to the general public but also to the profession. All the memorialists asked was that the Council should confer with them on the subject. They simply wished to inform the Council as to their views of what the profession thought in regard to the standard. To say that the Council would not receive them because they did not know what they did know was absurd. Their reception would not take more than one and a half hours of the time of the Education Committee and as the proceedings would be reported they would be instructive to the world at large.

Sir CHRISTOPHER NIXON, as a member of the Education Committee, thoroughly endorsed the view that that committee had gone as far as it could go at the present time in raising the standard of preliminary education, but when they had a body like the British Medical Association asking them to confer on the subject it seemed to him that it would be wanting in courtesy on the Council's part to refuse to receive a deputation. An interview, he believed, would be advantageous in showing the Association that the Council had endeavoured to raise the standard as high as present conditions allowed.

Sir JOHN BATTY TUKE regarded the reasons given in support of the requested interview as being so much opposed to the action of the Council that it seemed impossible to receive a deputation. Impossibilities were asked for. Changes were wanted that could not be got without legislation and the Council knew how difficult it was to secure legislation. With regard to the Education Committee having information which it had not given to the Council the committee certainly had been entrusted with the opinion of experts on the subject, but it was impossible to disclose such opinions. It had information on which it acted which could not be made public, but apart from that it had done everything it could in the direction of securing progress. He should regard the passing of Mr. Horsley's motion as a vote of censure on the Education Committee.

Several Members: Nothing of the kind.

Dr. WINDLE would be the last man to pass a vote of censure on the Education Committee. At the same time he should certainly regret if the Council refused to accept Mr. Horsley's motion, and he thought that Sir John Batty Tuke should rather rejoice at the opportunity it would afford him of having the apostolic chance of dispelling the ignorance that it was alleged existed. So far as he himself was concerned, he believed that the preliminary education for medical students at the present time was inadequate; still the state of affairs as regarded general education was not at all satisfactory. Improvement was necessary, and they were screwing up the schools to secure better teaching power. That process of screwing meant time and meant waiting to see results. Such

a fact should be stated to the proposed deputation, as it would be of great advantage to the profession and the public. He should vote for Mr. Horsley's proposal, but in no sense could he consider it a vote of censure on the Education Committee.

Dr. PAYNE expressed the same view of the proposal. He thought that the deputation should be received, not by the Council, but by the Education Committee.

Mr. TOMES was of the opinion that though they did not agree with all that the communications before them contained, it would be hardly the right thing for the General Medical Council—a body representing the medical profession—to decline the reception of a deputation which was to be headed by the principal office-bearers of the largest medical association in the world.

After some further remarks Mr. Horsley's motion was adopted.

The PRESIDENT pointed out that a number of the gentlemen named on the list resided far distant from London—there was one in Montreal and several in the West of England—and he supposed that time would have to be given to afford them an opportunity of attending. Moreover, he did not know whether all the gentlemen named had consented to allow themselves to be included, for instance two members of the General Medical Council were amongst them—namely, Dr. Finlay and Mr. Horsley. He did not know whether they had consented.

Dr. FINLAY: My name was put on this list without my knowledge, and I do not propose to attend as a member of the deputation.

Mr. HORSLEY: I received a request to attend as a member of the deputation, and I said I would do so.

It was arranged that in correspondence with Mr. Fowke the Education Committee should arrange the time for receiving the deputation.

The Council adjourned.

WEDNESDAY, MAY 28TH.

The Council resumed to-day, with Sir WILLIAM TURNER in the chair.

The Case of Marcus Robert Phipps Dorman.

For over two hours the Council sat *in camerâ* hearing and deliberating on the case of Dr. Marcus Robert Phipps Dorman of 9, Norfolk-crescent, Hyde Park, London, W., registered as M.B., Bac. Surg. 1892, Dip. Public Health 1893, M.D. 1899, Univ. Camb., Mem. R. Coll. Surg. Eng. 1892, Lic. R. Coll. Phys. Lond. 1892, who had been summoned to appear before them on a charge of unprofessional conduct. On strangers having been re-admitted, Dr. Dorman was called upon.

The PRESIDENT addressing him said: The Council has carefully deliberated on your case and they have instructed me to announce to you the resolution at which they have arrived: "That the Council do now judge you to have been guilty of infamous conduct in a professional respect and do direct the Registrar to erase your name from the Register." That is the decision of the Council.

The Case of John Flanagan.

Consideration was next given to the case of John Flanagan, of Patrick's-terrace, Castlerea, co. Roscommon, registered as Lic. R. Coll. Phys. Edin. 1900, Lic. R. Coll. Surg. Edin. 1900, Lic. Soc. Phys. Surg. Glasg. 1900, who was convicted on March 5th last at a general assize of the peace at Longford, Ireland, of throwing upon a man named Phillips a certain corrosive fluid with intent to do him injury, and was sentenced to a year's imprisonment.

Mr. WINTERBOTHAM (solicitor to the Council) stated that earlier in the day he had received a letter from Flanagan's solicitor asking postponement of the case in order that Flanagan might have an opportunity personally to appear before the Council. A petition on his behalf had been sent to the authorities, and the writer of the letter expressed the belief that his client would be released from custody in a very short time.

After the case had been deliberated upon *in camerâ*,

The PRESIDENT said: I have to announce that Mr. John Flanagan having been proved to have been convicted of felony, the Registrar has been directed to erase his name from the Medical Register.

The Case of Edward Thomas Ffrench.

The Council proceeded with the case of Edward Thomas Ffrench of Glasson, co. Westmeath, registered as Lic. 1862, Lic. Midwif. 1863, Fell. 1874, R. Coll. Surg. Irel., Lic. Med. Univ. Dubl. 1863, who at the Westmeath Summer Assizes held at Mullingar on July 1st, 1901, was found guilty of manslaughter and was sentenced to penal servitude for life.

The PRESIDENT, after a short sitting *in camerâ*, said: I have to announce that Edward Thomas Ffrench having been convicted of a felony, the Council has directed the Registrar to erase his name from the Medical Register.

The Case of Samuel Marston.

Consideration was next given to the case of Samuel Marston, dentist, registered as of 282, Belgrave-gate, Leicester, "in practice before July 22nd, 1878," who at the Hereford Assizes in November last was convicted of bigamy and was sentenced to 18 months' imprisonment with hard labour.

Mr. WINTERBOTHAM informed the Council that very shortly before he had received from Marston's brother an appeal for postponement of the case so as to allow Marston to appear before the Council himself "to be censured for the past and threatened for the future."

This document with others was considered in private, and then—

The PRESIDENT said: I have to announce that Samuel Marston having been proved to have been convicted of a felony, the Registrar has been directed to erase his name from the Dentists' Register.

Returns of Professional Examinations.

Mr. BALL moved:—

That it be referred to the Examination Committee to report whether it is desirable to obtain from the various licensing bodies the following additional information for use in the preparation of the annual table (a) showing results of professional examinations:—

1. Where credit is allowed for a single subject or group of subjects only at any examination the number of students who pass or are rejected in such portion of the examination should be furnished separately from the list of those who pass or are rejected from the entire examination.

2. That in addition to giving a return of the candidates rejected at any examination the number of such candidates who have been previously rejected upon one or more occasions for the same examination be indicated, with the number of such previous rejections in each case.

In supporting this proposal Mr. Ball explained that the object of the first part of his motion was to secure that the table in question should be a more accurate record than it was at present, and should show whether "passes" returned were passes of the complete examination or only a certain portion of it. With regard to the second part of the motion he thought that some scheme might be devised which would stop the "chronic" student at an earlier part of his career, and in order to further that they should have information as to what proportion of the students rejected at a certain examination had previously been rejected on going up for the same examination. He thought that it would do good if on a first rejection a student was debarred from going up again for six months, on a second for 12 months, and on a third for a longer period. If the licensing bodies would agree to adopt some such scheme generally a very great step would be made in excluding the chronic student at an earlier stage than it was possible to do at present.

Mr. HORSLEY, who seconded, said that it was most desirable that they should have the annual tables complete.

Sir CHRISTOPHER NIXON remarked that the motion opened up for the consideration of the Council or its Examination Committee the very important question of uniformity of standard of examination. At present there was no uniformity, the different medical licensing bodies having varying systems, some giving no credit unless the complete examinations were passed and others giving credit where only a certain portion was passed. If the motion secured sameness in the conduct and standard of examinations that would be very satisfactory.

Dr. NORMAN MOORE thought that the information wanted was of a kind that might be very well obtained. All the information that it was possible to get the Council should have before it, and he thought that there could be no hesitation on the part of any of the licensing bodies to furnish what was now desired.

The PRESIDENT said that it seemed to him that the first part of the motion started on an assumption that generally allowance was made for a single subject or group of subjects, and that students were returned as passing or being rejected not in the whole examination but in a portion of it. Now, he thought that the Council or the Examination Committee

should satisfy itself that returns were framed on that basis. As regarded the University of Edinburgh returns were not made on that basis. If a man was returned as having passed, that meant that he must have passed all the subjects of the examination. However, the question here raised was one of the returns made to the Council by the respective registrars of the licensing bodies, and he must say the motion was so framed that if sent down to the bodies in the form in which it now stood it would be differently interpreted by different bodies. He thought that it needed redrafting, and he suggested that the Examination Committee should be allowed to work it into a shape that would make it clear to all who would have anything to do with it.

The motion having been agreed to,

Mr. BRYANT assured the Council that the Examination Committee would try to make it clear.

The Council adjourned.

THURSDAY, MAY 29TH.

The Council met again to-day and proceeded with the consideration of more penal cases.

Medical News.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.—The following gentlemen passed the First Professional Examination for the diploma of Fellow at the half-yearly meeting of the Board of Examiners in May :—

Philip Edward Homer Adams, B.A. Oxon., Oxford University and London Hospital; Robert Aird, M.B., Ch.B. Aberd., Aberdeen University; George Arthur, M.B., Ch.B. Glasg., Glasgow University and King's College, London; John Gerald Atkinson and Tom Bates, St. Bartholomew's Hospital; Athelstan Jasper Blaxland, University College, London; Frederick Barnes and John Hunter Clatworthy, Guy's Hospital; Frank Coleman, M.R.C.S. Eng., L.R.C.P. Lond., Charing Cross, King's College, and St. Bartholomew's Hospital; Albert William Duncan Coventon, B.A. Camb., Cambridge University and St. Bartholomew's Hospital; Henry Tregellas Doble, M.R.C.S. Eng., L.R.C.P. Lond., St. Mary's and King's College Hospitals; Richard Felton, Guy's Hospital; Cecil Irving Graham, M.R.C.S. Eng., L.R.C.P. Lond., St. Mary's Hospital; Philip Maynard Heath, M.B. Lond., M.R.C.S. Eng., L.R.C.P. Lond., University College, London; Henry Thomas Hicks, M.R.C.S. Eng., L.R.C.P. Lond., Guy's Hospital; Ernest Cranmer Hughes, B.A. Camb., Cambridge University and Guy's Hospital; Frank Alexander Jeans, B.A. Camb., Cambridge University and King's College, London; John Frederick Jennings, M.B. Lond., M.R.C.S. Eng., L.R.C.P. Lond., St. Bartholomew's and King's College Hospitals; William Lowe, B.A. Camb., Cambridge University and London Hospital; Thomas Lyle, Queen's College, Belfast; Donald Johnstone McGavin, M.D. Lond., M.R.C.S. Eng., L.R.C.P. Lond., Birmingham University; James Cole Marshall, M.B. Lond., M.R.C.S. Eng., L.R.C.P. Lond., St. Bartholomew's Hospital; William Mayhew Mollison, B.A. Camb., Guy's Hospital; Sydney Arthur Owen, B.A. Camb., Cambridge University and King's College, London; Charles Buckingham Shuttleworth, M.D., C.M. Toronto, M.R.C.S. Eng., L.R.C.P. Lond., Trinity College, Toronto, and King's College, London; Richard Atkinson Stoney, M.B., B.Ch., B.A. Dub., Trinity College, Dublin; Charles Bertram Thomson, M.R.C.S. Eng., L.R.C.P. Lond., Guy's Hospital; William Traill Thomson, Otago University and King's College, London; Frank Edward Taylor, M.A., M.B., M.Sc. Viet., M.R.C.S. Eng., L.R.C.P. Lond., Yorkshire College, Leeds, and King's College, London; Gordon Wilson Thomas, Yorkshire College, Leeds; Tom Walker, M.R.C.S. Eng., L.R.C.P. Lond., Owens College, Manchester; John Benjamin Valentine Watts, University College, Bristol; Kenrick Stanton Wise, B.Sc. Lond., St. Bartholomew's Hospital; Cyril George Russ Wood, M.R.C.S. Eng., L.R.C.P. Lond., University College, Bristol; Ernest Eric Young, M.B., B.S. Lond., M.R.C.S. Eng., L.R.C.P. Lond., St. Bartholomew's Hospital.

123 gentlemen presented themselves for this examination, the above-named 35 passed, while 88 gentlemen were referred to their studies for six months.

SOCIETY OF APOTHECARIES OF LONDON.—At examinations held in May the following candidates passed in the subjects indicated :—

Surgery.—F. G. Bennett (Sections I. and II.), Cambridge and University College Hospital; J. C. O. Bradbury (Sections I. and II.), Cambridge and Guy's Hospital; G. F. G. de Laubenque, Middlesex Hospital; H. F. B. Roberts (Sections I. and II.) and B. Rowlands, St. Bartholomew's Hospital; and P. P. Tobit (Section II.), King's College Hospital.

Medicine.—J. R. Clements, Birmingham and University College Hospital; E. Gray, London Hospital; W. P. A. Hardwicke, Durham; G. A. Jones (Sections I. and II.), St. George's Hospital; F. I. M. Jupe, Cambridge; E. J. Miller, King's College Hospital; H. F. B. Roberts (Sections I. and II.), St. Bartholomew's Hospital; F. H. Rotherham, London Hospital; and C. M. Woods (Section I.), Charing Cross Hospital.

Forensic Medicine.—E. Gray, London Hospital; G. A. Jones, St. George's Hospital; F. I. M. Jupe, Cambridge; E. J. Miller, King's College Hospital; F. H. Rotherham, London Hospital; and C. M. Woods, Charing Cross Hospital.

Midwifery.—G. A. Crowe, London and Westminster Hospitals; G. A. Jones, St. George's Hospital; and F. H. Hand, St. Mary's Hospital.

The diploma of the Society was granted to the following candidates entitling them to practise medicine, surgery, and midwifery: J. R. Clements, W. P. A. Hardwicke, F. I. M. Jupe, G. F. G. de Laubenque, B. Rowlands, and P. P. Tobit.

ROYAL COLLEGE OF SURGEONS IN IRELAND.—The following candidates having passed the necessary examination have been admitted Fellows of the College :—

Miss C. McCrea, Mr. R. D. Patterson, Mr. R. S. Ryce, Mr. M. J. Smith, and Mr. D. Turner.

FOREIGN UNIVERSITY INTELLIGENCE.—*Berne :* Dr. Leon Ascher, *privat-docent* of Physiology, and Dr. Max Howald, *privat-docent* of Pathological Anatomy, have been granted the title of Professor.—*Bonn :* The title of professor has been granted to Dr. Pletzer and to Dr. Wendelstadt.—*Halle :* Dr. Heilbronner, *privat-docent* of Neurology and Psychiatry, has been promoted to an extraordinary professorship.—*Munich :* The charge of the Hygienic Institute has been temporarily entrusted to Professor Rudolf Emmerich until a successor to the late Professor Buchner is appointed.—*Naples :* Dr. Carmelo Abate has been recognised as *privat-docent* of Laryngology.—*Pennsylvania :* Dr. Geo. E. de Schweinitz has been appointed to the chair of Ophthalmology.—*Vienna :* Dr. Wilhelm Latzko has been recognised as *privat-docent* in Midwifery and Gynæcology.

VACCINATION FEES.—The Plympton (Devon) Board of Guardians on May 16th decided to support the resolution of the Rugby Guardians and to petition the Local Government Board to amend the Vaccination Order by providing that the fees for revaccinations at the homes of the persons vaccinated should be the same as for revaccinations performed elsewhere—viz., 2*s.* 6*d.* instead of 5*s.* The guardians also recommended that the Government should undertake the gratuitous supply of lymph to private practitioners.—The Barnstaple (Devon) Board of Guardians at their meeting on May 16th also decided to support the petition of the Rugby Guardians.—At the meeting of the Tavistock (Devon) Board of Guardians held on May 17th a motion was passed urging the suggestion that persons who desired to be revaccinated should attend the house of the public vaccinator or a station appointed for that purpose, otherwise they should themselves defray the cost of revaccination at their own homes.—The Devonport Board of Guardians on May 23rd and the Wellington (Somerset) Board of Guardians at the meeting on May 22nd also decided to support the memorial of the Rugby Board of Guardians.

ROYAL METEOROLOGICAL SOCIETY.—The first of the afternoon meetings of the session of this society was held at the society's rooms, 70, Victoria-street, Westminster, on May 21st., Mr. W. H. Dines, B.A., the President, being in the chair. Captain D. Wilson Barker read a report prepared by Mr. Dines and himself on the Wind Force Experiments which had been made on H.M.S. *Worcester* off Greenhithe and at Stoneness Lighthouse, 817 yards from the ship on the north bank of the river. Dr. H. R. Mill read a paper on the Cornish Dust Fall of January, 1902. When the West of England newspapers of Jan. 24th announced falls of "pink snow" and "muddy rain" in several parts of Cornwall and South Wales it seemed to Dr. Mill possible that fresh light might be thrown on what was at present the chief object of progressive meteorology—viz., the movements of the upper air. He therefore took steps to collect as much information as possible from the whole of the district, and found that the phenomenon was reported from 75 different places in the south-west of England and Wales. These were all south of a line joining Milford Haven and Chepstow and west of the meridian of Bath. By means of a map Dr. Mill showed that four separate areas were visited by the dust between Jan. 21st and 23rd—viz. : (1) Cornwall, 1400 square miles; (2) North Devon, 150 square miles; (3) Milford Haven, 50 square miles; and (4) Bristol Channel, 600 square miles. The dust appeared to have been confined mostly to low rather than high ground, for none was reported to have fallen on the Mendip Hills, Dartmoor, Exmoor, and the Welsh mountains. The observations showed that Jan. 22nd was undoubtedly the day when most falls occurred and that the colour of the dust was yellowish or brownish. From a consideration of the meteorological conditions at the time and for several days before Dr. Mill was inclined to believe that the evidence

pointed to the dust having been transported in the upper air from the African deserts.

SOCIETY FOR THE STUDY OF DISEASE IN CHILDREN.—The provincial meeting of this society will be held at the Pendlebury Children's Hospital, Manchester, on Friday, June 20th, at 4 P.M. The proceedings should prove interesting judging from the list of communications which have been promised and which will be set out in our diary. At the conclusion of the meeting the members and their friends will dine at the Queen's Hotel. For the following day an excursion into Derbyshire has been arranged and those who intend to be present are requested to communicate with Dr. George Carpenter, 12, Welbeck-street, London, W., as soon as possible. The annual general meeting of the society will be held at the Hotel Cecil on July 16th, at 6.45 P.M., and will be followed by dinner at 7.30 P.M.

QUEEN CHARLOTTE'S LYING-IN HOSPITAL.—The annual report of this institution for the year ending Dec. 31st, 1901, states that the in-patients numbered 1284, an increase of 101 on the previous year, which had been the highest yearly number on record. The average daily number of patients was 47. Four patients died, three of whom were admitted in a moribund condition. In the out-patient department 1026 women were delivered. There were three deaths, two from hæmorrhage before delivery and one from septicæmia. The expenditure for the year amounted to £5090, being £875 in excess of the ordinary income and an increase of £450 on the amount for the year 1900, accounted for partly by increases in the cost of provisions and other necessaries and partly by the additional number of patients. The ordinary income amounted to £3836, which is an increase of £592 on that of the previous year.

UNIVERSITY OF LONDON: FACULTY OF MEDICINE.—A meeting of the Faculty of Medicine was held at the University on May 23rd, Mr. H. T. Butlin, the dean of the faculty, being in the chair. The faculty had under consideration the regulations for the matriculation examination recently approved by the Senate to which attention has already been drawn in THE LANCET. Under these regulations, in addition to English and elementary mathematics, which must be taken by all students entering for the examination, there is a large number of optional subjects, of which three must be chosen, one of the three being either Latin or a branch of elementary science. A proposal had been made that the Senate should publish in the University Calendar "advice to students as to the optional subjects they should select, having in view the faculty in which they intend to proceed to a degree." The Faculty of Medicine was asked whether it desired to indicate the optional subjects which should be chosen by a student preparing to obtain a degree in medicine. The following motion was passed:—

In the opinion of the Faculty of Medicine it is undesirable that any official advice should be published in the Calendar of the University as to the optional subjects which should be taken at the matriculation examination by intending undergraduates in medicine.

SOCIETY FOR RELIEF OF WIDOWS AND ORPHANS OF MEDICAL MEN.—The annual general meeting of this society was held at 11, Chandos-street, London, W., on May 21st. The President, Mr. Christopher Heath, took the chair. The meeting was well attended. From the report read by the secretary it appeared that 35 new members were elected during 1901; 14 had died and two elections had been declared void; 299 members were on the books at the end of the year, an increase of 19. Six fresh applications for grants had been received from widows and the grants had been given. Two widows had died, leaving 51 in receipt of grants. Three orphans had been elected; two had become ineligible; 14 still remained for assistance. The receipts available for grants and expenses had been £3409 7s. 6d. and the grants and expenses had been £3397 6s. 2d. A donation of £200 had been received from the executors of the late Miss C. A. Birch. During the year Mr. J. R. Upton resigned the office of honorary solicitor which had been held successively by his father and grandfather. The directors had passed a cordial vote of thanks to Mr. Upton for his long and valuable services and had since heard of his death with great regret. Mr. H. G. Tudor was elected an honorary member. Mr. Tudor's family have acted as brokers since the foundation of the society and have always given their services gratis. A vote of thanks to the editors of the medical journals for their ready help in making known the objects of the society was passed. The following were elected to fill the vacancies in the court of directors: Mr. R. Debenham, Mr. J. B. Crozier, Dr. J. B. Constable, Dr. H. C. Pope, Dr. F. de H. Hall, Mr. F. Canton, Dr. J. Crabb, Mr. H. W. Kiallmark, and Dr. Scanes Spicer. A letter was read from Dr. Robert Barnes inclosing a donation of £100 and a cordial vote of thanks was accorded to him. A vote of thanks to the chairman closed the business of the meeting.

FREEMASONRY.—*Middlesex Hospital Lodge, No. 2843.*—The installation meeting of this Lodge was held at Freemasons' Hall on May 15th, when Bro. William Duncan, M.D., was installed Worshipful Master for the ensuing year. In the unavoidable absence of the Director of Ceremonies his place was ably filled by Bro. Vincent Cotterell. The Worshipful Master appointed as his principal officers Bro. F. J. Wethered, S.W., Bro. A. G. R. Foulerton, J.W., Bro. Henry Morris, Treasurer, Bro. F. Clare Melhado, Secretary. Mr. John Glenton Myler was initiated into Freemasonry. At the banquet which followed over 70 brethren and their guests were present. The retiring Master, W. Bro. T. G. A. Burns, on being presented with a Past Master's jewel, returned thanks to the brethren, saying what a great happiness it had been to him to preside as the First Worshipful Master of the Lodge.—*Cheselden Lodge, No. 2870.*—A Lodge of Emergency was held on March 14th, at which Bros. T. W. Buckley, P. W. Sargent, J. G. Turner, and H. G. Toombs were admitted to the second degree. At a regular meeting on March 21st the Worshipful Master, W. Bro. Thomas Wakley, Jun., admitted Bros. F. G. Parsons, H. C. Crouch, E. M. Corner, and W. F. Umney to the third degree and Messrs. L. A. R. Wallace, W. H. Battle, H. T. D. Acland, and H. S. Sington were initiated into Freemasonry. A Lodge of Emergency was held on April 18th for the purpose of admitting Bros. Buckley, Sargent, Turner, and Toombs to the third degree and Bros. L. A. R. Wallace, Battle, Acland, and Sington to the second degree. At a regular meeting held on May 16th Messrs. E. A. Gates, Z. Mennell, and Arthur Mead were initiated and Bros. L. A. R. Wallace, Battle, Acland, and Sington were admitted to the third degree. Bro. C. G. Seligmann and Bro. J. R. Beale were elected as joining members of the lodge. W. Bro. G. Crawford Thomson was unanimously elected Worshipful Master for the ensuing year. The sum of 20 guineas was voted to the Royal Masonic Institution for Boys to be placed on the list of the Worshipful Master who is representing the Lodge as a steward at the forthcoming festival. A magnificent banner has been presented to the lodge by Bro. J. G. Wainwright, Treasurer of St. Thomas's Hospital, the first initiate of the lodge. The Worshipful Master of the Cheselden Lodge (for the time being) has been elected an honorary member of the following seven medical lodges: Rahere, Sancta Maria, Æsculapius, Cavendish, Middlesex Hospital, Chére Reine, and London Hospital.

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

Midwives Bill.

ACCORDING to the new rules of procedure now in operation two Fridays after Whitsuntide, the third and the fourth Friday after Whit Sunday, are reserved for Bills promoted by private Members and consequently it comes about that the consideration of the Midwives Bill as amended by the Grand Committee stands as the first order of the day for the sitting on Friday, June 6th. There will therefore be ample time for the discussion of the short list of amendments of which notice has been given.

HOUSE OF COMMONS.

MONDAY, MAY 26TH.

Uncertified Deaths in the Scottish Highlands.

Mr. WEIR asked the Lord Advocate if he would state the number of uncertified deaths in each of the six Highland crofting counties; and, in view of the fact that there was no information in the registrar's office as to the number of interments without the production of a medical certificate, would such steps be taken as would admit of this information being available.—The LORD ADVOCATE replied: The number of uncertified deaths in each of the crofting counties in 1900 was as follows: Shetland, 224; Orkney, 80; Caithness, 51; Sutherland, 104; Ross and Cromarty, 420; Inverness, 425; and Argyll, 175. The further information desired by the honourable Member cannot be obtained without legislation, which at present I cannot promise.

Lamp Accidents.

Mr. H. C. RICHARDS asked the Home Secretary (1) whether his attention had been called to the verdict of the jury as to the cause of the

recent loss of life at the fire in Lever-street, St. Luke's, and whether the report of the London County Council on the occurrence had been brought before him; and (2) was he aware that five deaths had occurred in less than 12 months by the unrestricted use of American Tea Rose Oil in this district, and, if the Home Office were not prepared to take action, whether he would consider the advisability of additional powers being given to the London County Council to inspect and to regulate the sale of all dangerous American oils in the county of London.—Mr. RITCHIE replied: I have had before me the verdict of the jury and the report of the Public Control Committee of the London County Council to which the question refers. In cases of accidents from defects in lamps or from the breaking of lamps it is a matter of great difficulty to decide in what way or to what extent the nature of the oil in use has occasioned or affected the accident; and I do not think that the suggestion at the beginning of the second paragraph of the question can be taken as a correct and sufficient statement of the causes of five, or indeed any, deaths in St. Luke's. Legislation would be necessary in order to bring under the control of a local authority petroleum not already so placed by the Acts of 1871 to 1881; and it is clear that such legislation would have to be of a general character, not confined to a particular locality. Moreover, I am not convinced that it would be effective in preventing or seriously diminishing the class of accidents in question or that there is sufficient justification for its introduction.

TUESDAY, MAY 27TH.

The Milk and Butter Question.

During the consideration of the vote for the Board of Agriculture several members called the attention of Mr. Hanbury to the working of the last Sale of Food and Drugs Act, that passed in 1899, which gives the Board of Agriculture, as well as the Local Government Board, certain powers as to adulteration. Sir EDWARD STRACHEY asserted that a great deal of milk was being sold in London to which large quantities of separated milk had been added along with colouring matter to conceal the adulteration, and he suggested that the central authority should send round inspectors to see that the local authorities were exercising proper supervision in this connexion. In his reply Mr. HANBURY said that there could be no doubt that in certain parts of the country the Act had not been carried out as efficiently as it might have been. The Act, however, was comparatively new and it would be well to leave local authorities a little more time to use their powers before the Board of Agriculture intervened. The department had two inspectors engaged in watching the effect and the extent of the operation of the Act; their reports kept him fully informed, and the only question was how long a period of grace should be allowed to local authorities who did not exercise their powers under the Act. His own feeling in regard to preservatives in butter and milk was that their use should be discouraged. As to the mixing of butter with other articles his view was that the farmer had a perfect right to his trade description and that articles ought not to be sold as butter which were not entitled to that description.

The Extermination of Rabies.

Mr. HANBURY also made a statement on this subject. He regretted the long retention of the muzzling order in certain districts but it had been found necessary owing to the continued presence of disease. He was not in favour of exemption even for sheepdogs. In the event of an outbreak of rabies he should not hesitate to issue a muzzling order without exemptions of any kind. No loophole should be left for the spread of a disease so terrible as rabies. A strong appeal was made in favour of the pet dog which was taken abroad and whose owner wanted to bring it back. This country, however, was now free from rabies with the exception of Carmarthen and part of the country round Plymouth. The continent, on the other hand, was not free from it. No precautions, therefore, could be too severe. The reason why the regulations were now more stringent than before was that the old regulation, whereby the owner of a dog was able to take his dog home on keeping it in quarantine for three months in his own house and not then allowing it to go loose until it was certified by a veterinary expert to be free from disease, had been grossly abused. The regulation had not been observed in cases. This was in itself good reason for the abolition of the privilege, and since the muzzling order had been withdrawn in so many places the case for the abolition had become much stronger. It seemed to him, when it was considered how many millions of people there were in this country to be kept free from the risk of rabies and how few people took their dogs abroad, the public health must be considered and not the convenience of that small body of persons.

Vaccination: Dr. S. A. M. Copeman's Experiments.

About one and a half hours were devoted to discussion on the vote for the Local Government Board.

Mr. HENRY BROADHURST, the Member for Leicester, made complaint of the charges for vaccination. He thought that they were in many cases excessive and he suggested that the Local Government Board should issue regulations which would secure their reduction. He also complained that magistrates dealing with applications for exemption from vaccination often badgered and bullied those who came before them and said that he saw no reason why the Local Government Board should not issue instructions to protect parents in the exercise of the right conferred on them by the statute. Further, he asked the President of the Board to give an assurance that no more persons would be vaccinated with lymph derived from monkeys.—Mr. THOMAS BAYLEY said that he desired to call the attention of the House to the action of Dr. S. A. M. Copeman, one of the servants of the Local Government Board. In a paper read before a medical society this gentleman stated that he had taken small-pox virus from small-pox patients in Gloucester, or some other place where there had been an epidemic, and vaccinated monkeys and afterwards had taken vaccine from the monkeys and successfully vaccinated a great number of children. The President of the Local Government Board might laugh but the country regarded this matter in a very serious light. It was a disgrace for any Government department to allow one of its servants to do such a thing. The question he had to ask the right honourable gentleman was, whose children were they who were vaccinated with small-pox taken through a monkey? Was the consent of the parents obtained before this experiment was made upon them? He had no doubt that this vaccine was issued with a sort of Government guarantee that it was pure vaccine.—Mr. LONG, interrupting the hon. Member, said that he was indulging in the wildest suggestions. This lymph which he called small-pox given through a monkey had nothing on earth to do with the Local Government Board.—Mr. BAYLEY: But he was a Government servant and he was paid by the Government for these experiments.—Mr. LONG: No, no. The hon. gentleman is probably not aware of the fact that a great many scientific gentlemen are employed by Government departments and that some of these gentlemen conduct for the public benefit experiments on their own account, and do a great deal of research work with which the Government department has nothing to do. Dr. Copeman did this particular research work, for which he has been thanked by the highest medical authority. He produced this lymph, though not in the remarkable manner suggested by the hon. Member, but the Local Government Board is in no way responsible for it. They do not condemn what he did. On the contrary, they believed that it was of the highest scientific value.—Mr. BAYLEY: But the Government paid him.—Mr. LONG: The Government paid Dr. Copeman his salary as an inspector, but that does not prevent his engaging in research work in his own time.—Mr. BAYLEY: Will the right hon. gentleman tell me whose children were vaccinated?—Mr. MUNTZ: May I ask the hon. Member why he thinks a monkey is inferior to a calf?—Mr. BAYLEY: What I want to know is whether the lymph was used compulsorily to vaccinate children?—Mr. LONG said that he would endeavour to deal with the complicated problem which the hon. Member had presented to the House. He had tried very hard in following the questions asked by the hon. Member in connexion with Dr. Copeman's experiments to find out what particular part in the puzzle the monkey was supposed to play but he had never yet succeeded in arriving at satisfactory information on the point. The hon. Member had told them that the whole country was moved to its very heart by this question but he (Mr. Long) could only say that with the exception of the hon. Member and one or two others he had met nobody who was in the least excited as to whether the monkey or the calf was used, not, as he said, for the purpose of conveying small-pox either to the monkey or the calf. The process was really a simpler one than the hon. Member seemed to think. He was mistaken in thinking that the vaccine of the monkey passed directly to the child. It was passed through the calf, the safeguard to which the hon. Member apparently attached so much importance. Dr. Copeman conducted some extremely valuable experiments entirely upon his own account and he thought that the House would agree that it was undesirable that scientific men employed by the Government should be precluded from scientific research, which not only contributed to their own efficiency in their departmental work but to the great advantage of the public at large. Dr. Copeman made certain experiments. First of all Dr. Copeman vaccinated himself and having been satisfied that the lymph was not likely to produce injurious results he vaccinated the children of certain people with it. He (Mr. Long) was sorry he could not tell the hon. Member whose children they were but he assumed that the parents knew how the lymph had been obtained and were not at all disturbed by the monkey having played some part in its production. As to the charges of medical men for vaccination he could only say that when the Vaccination Act was passed the Government had no special experience as to what the working of it would be and he thought it was quite possible that he might have to reconsider the present payments made in respect of vaccination. As matter of fact he had the subject under consideration now. As to issuing a circular to magistrates indicating how they were to administer the law with reference to the conscientious objector, he could not undertake such a novel and undesirable course of action. The magistrates had before them the Act of Parliament and they were quite capable of interpreting it.

BOOKS, ETC., RECEIVED.

AMERICAN ORTHOPEDIC ASSOCIATION, Chairman, Publication Committee, 372, Marlborough-street, Boston, U.S.A.
Transactions of the American Orthopedic Association. Fifteenth Session, held at Niagara Falls, June 11th, 12th, and 13th, 1901. Volume xiv. Price not stated.

ARNOLD, EDWARD, 37, Bedford-street, Strand, W.C.
A Text-book of Physics. With Sections on the Application of Physics to Physiology and Medicine. By R. A. Lehfeldt, D.Sc., Professor at the East London Technical College. Price 6s.
Physiology for Beginners. By Leonard Hill, M.B., F.R.S., Lecturer on Physiology, London Hospital Medical School. Price 1s.

BAILLIÈRE, J. B., ET FILS, 19, Rue Hautefeuille, Paris.
Les Cures de Vichy: Indications, Régimes, Bains, Douches, Buvette, Exercice, Vichy et ses Environs. Par le Dr. Salignat, Médecin Consultant à Vichy. Price 2 francs.

BAILLIÈRE, TINDALL AND COX, 8, Henrietta-street, Covent Garden, W.C.
The Practitioner's Handbook of Diseases of the Ear and Naso-Pharynx. By H. Macnaughton-Jones, M.D., M.Ch., F.R.C.S. Irel. & Edin.; W. R. H. Stewart, F.R.C.S. Edin.; William Milligan, M.D., C.M.; Herbert Tilley, M.D., B.S., F.R.C.S. Eng.; Ambrose Birmingham, M.D., F.R.C.S. Irel., F.R.U. Irel.; and Robert Dwyer Joyce, F.R.C.S. Irel., M.R.C.S. Sixth edition. Price 10s. 6d. net

CASSELL AND COMPANY, LIMITED, London, Paris, New York, and Melbourne
Clinical Methods: A Guide to the Practical Study of Medicine. By Robert Hutchison, M.D., M.R.C.P., and Harry Rainy, M.A., F.R.C.P. Edin., F.R.S. Edin. New, revised, and enlarged edition. Price, cloth, 10s. 6d.

FISCHER, GUSTAV, Jena.
Bericht über die vom Komitee für Krebsforschung am 15. Oktober 1900, erhobene Sammelforschung. Herausgegeben von dem Vorstand. (I. Ergänzungsband vom Klinischen Jahrbuch im Auftrage des Königlich Preussischen Herrn Ministers der geistlichen, Unterrichts- und Medizinal-Angelegenheiten, unter Mitwirkung der Herren Prof. Dr. Kirchner und Dr. Naumann.) Price 10 marks.

GAULTIER, MAGNIER ET CIE, 55, Quai des Grands-Augustins, 7, rue Bonaparte, Paris.
L'Art et la Médecine. Par le Dr. Paul Richer, Membre de l'Académie

de Médecine. Illustré de 345 reproductions d'œuvres d'art. Prix 30 francs.

GRANT, ROBERT AND SON, 107, Princes-street, Edinburgh; WILLIAMS AND NORGATE, 14, Henrietta-street, Covent Garden, London.

Transactions of the Royal Society of Edinburgh. Vol. xl. Part II. (No. 18). On a Possible Stridulating Organ in the Mosquito (Anopheles maculipennis, Meig.) By A. E. Shipley, M.A., and Edwin Wilson, F.R.S. (With a plate.) Price 1s. 6d.

G. P. PUTNAM'S SONS, 24, Bedford-street, London, W.C., and New York

The Mental State of Hystericals: A Study of Mental Stigmata and Mental Accidents. By Pierre Janet, Litt.D., M.D., Professor of Philosophy at the Collège Rollin. With a Preface by Professor J. M. Charcot. Translated by Caroline Rollin Corson. Price 15s.

ISBISTER AND CO., LIMITED, 15 and 16, Tavistock-street, Covent Garden, W.C.

A Hero of Donegal: Dr. William Smyth. By Frederick Douglas How, Author of "Bishop Walsham How," "Bishop Selwyn," "Noble Women of our Time." With eight illustrations. Price 2s. 6d. net.

KARGER, S. Karlstrasse 15, Berlin.

Operations-vademecum für den Praktischen Arzt. Von Dr. Edmund Leser, Professor an der Universität Halle, A.S. Second enlarged, revised edition. Price M.5.

Grundriss der Pathologischen Anatomie für Studirende und Aerzte. Von Professor Dr. Langerhans, Prosector am Städtischen Krankenhaus Moabit in Berlin. Third enlarged and revised edition. Price M.13.

Alkoholismus im Kindesalter. Von Professor Dr. Max Kassowitz, Direktor des I. Oeffentlichen Kinder-Kranken-Institutes in Wien. Price 80 Pf.

Zum Studium der Merkfähigkeit. Experimental-psychologische Untersuchung. Von Dr. Aug. Diehl, Nervenarzt in Lübeck. With a Preface by Professor Dr. Aug. Forel. Price M.1.

Neurasthenie und Hysterie bei Kindern. Von Dr. Alfred Saenger, Nervenarzt in Hamburg. Price 80 Pf.

Jahrbuch für Kinderheilkunde und Physische Erziehung. Unter Redaction von O. Heubner, A. Steffen, Th. Escherich. 55., der dritten Folge 5 Band 5 Heft. Ausgegeben am 1. Mai, 1902. Preis des Jahrganga (zwei Bände) M.36.

KEGAN PAUL, TRENCH, TRÜBNER AND CO., LIMITED, Paternoster House, Charing-cross-road, W.C.

B. Bradshaw's Dictionary of Mineral Waters, Climatic Health Resorts, Sea Baths, and Hydropathic Establishments. With maps and plans. 1902. Price 2s. 6d.

LIVINGSTONE, E. & S., Edinburgh.

A Text-book of Medical Jurisprudence, Toxicology, and Public Health. By John Glaister, M.D., D.P.H. Camb., F.R.S. Edin., Professor of Forensic Medicine and Public Health in the University of Glasgow. Price 15s. net.

LÖHR, C.M., Cottage Hospital, Potters Bar, Middlesex.

The Nurse's Report Book, for Day and Night. Arranged for three weeks, with Temperature Charts. By C. M. Löhr, Member of the Royal British Nurses' Association. Fourth edition. Price 6d. post free; or 5s. per dozen.

LONGMANS, GREEN, AND CO., 39, Paternoster-row, E.C.

The Essentials of Histology, Descriptive and Practical. For the Use of Students. By E. A. Schäfer, LL.D., F.R.S., Professor of Physiology in the University of Edinburgh. Sixth edition. Price 9s. net.

MALOINE, A., 23-25, rue de l'École de Médecine, Paris.

Les Aveugles à travers les Ages. La Clinique Nationale Ophtalmologique des Quinze-Vingts, avec une Statistique sur les Causes de la Cécité, basée sur 2000 Observations. L'Hospice des Quinze-Vingts Moderne. Par le Docteur Constantin Golescano. Préface de M. le Docteur J. V. Laborde. Price 6 francs.

METHUEN & CO., 36, Essex-street, Strand, W.C.

Lights and Shadows in a Hospital. By Alice Terton. Price 3s. 6d.

MURRAY, JOHN, Albemarle-street, W.

Dangerous Trades: The Historical, Social, and Legal Aspects of Industrial Occupations as affecting Health, by a Number of Experts. Edited by Thomas Oliver, M.A., M.D., F.R.C.P., Medical Expert on the White Lead, Dangerous Trades, Pottery, and Lucifer Match Committees of the Home Office; Professor of Physiology, University of Durham. Price 25s. net.

A First Course of Chemistry (Heuristic). By J. H. Leonard, B.Sc. Lond. Author of "A First Course of Practical Science." Price 1s. 6d.

NAUD, C., 3, rue Racine, Paris.

Intubation du Larynx: Instruments, Technique, Avantages. Par le Dr. Perez-Avendaño, Ancien Interne des Hôpitaux de Buenos Ayres. Préface du Dr. Marfan, Professeur agrégé à la Faculté de Médecine, Médecin de l'Hôpital des Enfants Malades. Price 4 francs.

Manuel Pratique de Bactériologie, Parasitologie, Urologie, Anatomie Pathologique. Par le Dr. Petit et G. Borne. Price 3 francs.

PORTH, C., 105, Grand Avenue, Milwaukee, Wis., U.S.A.

Visual Economics, with Rules for Estimation of the Earning Ability after Injuries to the Eyes. By H. Magnus, Med. Dr. of Breslau, Germany, and H. V. Würdemann, M.D., of Milwaukee, Wis., U.S.A. Price $2·50.

POWER, MAURICE H., Philadelphia.

Philadelphia Hospital Reports. Volume iv.—1900. Edited by Roland G. Curtin, M.D., President of the Medical Board; and Daniel E. Hughes, M.D., Chief Resident Physician. Price not stated.

SMITH, ELDER & CO., 15, Waterloo-place, S.W.

General Index to the Transactions of the Pathological Society of London for Vols. xxxviii. to l. 1887-99. Price not stated.

STUBER, A. (C. KABITZSCH), Würzburg.

Die Krankheiten der Verdauungsorgane im Kindesalter. Für Aerzte und Studierende. Von Dr. Ernst Schreiber, Privat-docent an der Universität Göttingen. Price, paper, M.5·40; cloth, M.6·40.

IGOT FRÈRES, 23, Place de l'École de Médecine, Paris.

Traité Théorique et Pratique du Massage et de la Gymnastique Médicale Suédoise. (Leur Emploi Thérapeutique). Par J. E. Marfort, Masseur-Gymnaste de l'Institut des Demoiselles Nobles. Deuxième edition. Price 4 francs.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward it to THE LANCET Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, for publication in the next number.

ADAMS, A., M.A., M.B., has been appointed Medical Officer and Public Vaccinator for the No. 5 District of the Liskeard (Cornwall) Union.

ALLBUTT, CLIFFORD, M.D., F.R.S., has been appointed Examiner in Medicine and Therapeutics for the Indian Medical Service.

BOGER, WILLIAM HENRY, L.R.C.P. Edin., M.R.C.S., has been re-appointed Medical Officer and Public Vaccinator for the No. 4 District of the Liskeard (Cornwall) Union.

BRIDGER, J. F. E., M.R.C.S., L.R.C.P. Lond., has been appointed Civil Surgeon to the Troops and Boer Prisoners stationed at Antigua.

BROWN, Major E. HAROLD, I.M.S., M.D., has been appointed Clinical Assistant to the Chelsea Hospital for Women.

COWDEN, W. J., M.D. R.U.I., has been appointed Certifying Surgeon under the Factory Act for the Dromore District of the County of Down.

CUNNINGHAM, D. J., M.D., F.R.S., has been appointed Examiner in Surgical Anatomy and Physiology for the Indian Medical Service.

HAMMOND, WILLIAM, L.R.C.P., L.M. Edin., M.R.C.S., L.S.A., has been re-appointed Medical Officer and Public Vaccinator for the No. 6 District of the Liskeard (Cornwall) Union.

HARDING, NORMAN E., M.B., Ch.B. Edin., has been appointed Locum Assistant Medical Officer to the Durham County Asylum.

LEITH, R. CALDER, M.A., F.R.C.P. Edin., F.R.S. Ed., has been appointed Examiner in Pathology and Bacteriology for the Indian Medical Service.

LEONARD, F. C., M.D., has been appointed Clinical Assistant to the Chelsea Hospital for Women.

LOW, V. WARREN, M.D., B.S., F.R.C.S., has been appointed Surgeon to the Out-patient Department of St. Mary's Hospital, Paddington.

MACCARTHY, BRENDAN, M.D., B.Ch., B.A.O. Dub., has been appointed Permanent Medical Inspector on the staff of the Local Government Board at Londonderry.

MARSH, HOWARD, F.R.C.S., has been appointed Examiner in Surgery and Diseases of the Eye for the Indian Medical Service.

MURRAY, R. MILNE, M.A., F.R.C.P. Edin., F.R.S. Ed., has been appointed Examiner in Midwifery and Diseases of Women and Children for the Indian Medical Service.

POWELL, J. F., M.R.C.S., L.R.C.P. Lond., has been appointed House Surgeon to the Victoria Hospital, Folkestone.

PROVIS, F. LIONEL, M.R.C.S., L.R.C.P. Lond., has been appointed Registrar to the Chelsea Hospital for Women.

REES, D. C., M.R.C.S., L.R.C.P. Lond., Senior Government Plague Medical Officer, Cape Colony, lately Medical Superintendent, London Tropical School of Medicine, has been appointed Medical Inspector on the staff of the Medical Officer of Health for the Cape Colony.

STOCKMAN, RALPH, M.D., F.R.C.P., F.R.S. Ed., has been appointed Examiner in Chemistry, Pharmacy, Botany, and Zoology for the Indian Medical Service.

WATERS, JAMES, L.S.A. Lond., has been appointed Medical Officer of Health and Public Vaccinator to the Bildeston District of the Cosford Union, Suffolk, and Medical Officer to the Workhouse at Semer, Suffolk.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

ARMY MEDICAL SERVICE, War Office, S.W.—Thirty Commissions.

AYLESBURY, ROYAL BUCKINGHAMSHIRE HOSPITAL.—Resident Surgeon, unmarried. Salary £80, rising to £100, with board and apartments.

AYR DISTRICT LUNACY BOARD.—Medical Superintendent. Salary £500, with house, coal, gas, &c.

BETHLEM HOSPITAL.—Two Resident House Physicians for six months, with apartments, board, &c. Honorarium at rate of £25 per quarter.

BIRMINGHAM AND MIDLAND HOSPITAL FOR SKIN AND URINARY DISEASES, Birmingham.—Clinical Assistant.

BRISTOL CITY LUNATIC ASYLUM.—Medical Assistant, unmarried. Salary £140 per annum, increasing to £160, with apartments, board, and washing.

CENTRAL LONDON SICK ASYLUM at Cleveland-street or Hendon.—First Assistant Medical Officer. Salary £120 per annum, with board and residence at Hendon Asylum.

DUDLEY GUEST HOSPITAL.—Assistant House Surgeon for six months. Salary £40 per annum, with residence, board, and washing.

DURHAM COUNTY ASYLUM.—Third Assistant Medical Officer. Salary £150, rising to £180 a year, with apartments, board, laundry, and attendance.

FISHERTON ASYLUM.—Assistant Medical Officer, unmarried. Salary £150 per annum, with board, lodging, and washing.

FORRES LEANCHOIL HOSPITAL, Morayshire.—Medical Officer. Salary £60 per annum.

GLASGOW ST. MUNGO'S COLLEGE, MEDICAL FACULTY.—Notman Chair of Physiology.

GRAVESEND HOSPITAL.—House Surgeon. Salary £90 per annum, with board and residence.

HORTON INFIRMARY, Banbury.—House Surgeon and Dispenser. Salary £80 per annum, with board and lodging.

HOSPITAL FOR SICK CHILDREN, Great Ormond-street, London, W.C.—House Physician, unmarried, for six months. Salary £20, with board and residence. Also Clinical Pathologist and Bacteriologist. Honorarium 50 guineas.

HOSPITAL FOR WOMEN, Soho-square, W.—Honorary Assistant Anæsthetist. Also House Physician for six months. Salary £30.

HULME DISPENSARY, Manchester.—Honorary Physician.

INDIAN MEDICAL SERVICE, India Office, S.W.—Nineteen appointments in Indian Medical Service.

LIVERPOOL BOROUGH HOSPITAL, Bootle.—Junior House Surgeon. Salary £80 per annum, with board, lodging, and laundry.

LIVERPOOL INFIRMARY FOR CHILDREN.—Assistant House Surgeon for six months. Salary £25, with board and lodging.

LONDON HOSPITAL, Whitechapel, E.—Surgeon.

LONDON TEMPERANCE HOSPITAL, N.W.—Assistant Resident Medical Officer for six months. Honorarium at rate of 50 guineas per annum, with board, residence, and washing.

LONDON THROAT HOSPITAL, 204, Great Portland-street, W.—Non-resident House Surgeon. Honorarium at rate of £25 per annum.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen-square, Bloomsbury.—Assistant Physician.

NORFOLK AND NORWICH HOSPITAL.—Second Assistant House Surgeon for six months, with board, lodging, and washing. Honorarium £20.

NORTHAMPTON GENERAL INFIRMARY.—Assistant House Surgeon, unmarried. Salary £75 per annum, with apartments, board, attendance, and washing.

NOTTINGHAM GENERAL DISPENSARY.—Assistant Resident Surgeon, unmarried. Salary £160 per annum, with apartments, attendance, light, and fuel.

ST. MARYLEBONE GENERAL DISPENSARY, 77, Welbeck-street, Cavendish-square, W.—Resident Medical Officer. Salary £150 per annum, with apartments, attendance, coal, and light.

ST. MARY'S HOSPITAL FOR SICK CHILDEN, Plaistow, E.—Resident Medical Officer. Salary £100 per annum. Also Assistant Resident Medical Officer. Salary £80 per annum. Both with board, residence, and laundry.

SHEFFIELD ROYAL HOSPITAL.—Honorary Dental Officer.

SOMERSET AND BATH ASYLUM, Cotford, Taunton.—Assistant Medical Officer, unmarried. Salary £150 per annum, with apartments, board, and washing.

STAFFORDSHIRE COUNTY ASYLUM, Stafford.—Junior Assistant Medical Officer, unmarried. Salary £150, rising to £200, with apartments, board, &c.

STAFFORDSHIRE GENERAL INFIRMARY, Stafford.—House Surgeon. Salary £120 per annum, with board, lodging, and washing.

SUSSEX COUNTY HOSPITAL.—Second House Surgeon and Anæsthetist.

SWANSEA GENERAL AND EYE HOSPITAL.—Resident Medical Officer, Salary £75, with board, apartments, washing, and attendance.

THROAT HOSPITAL, Golden-square, W.—Junior House Surgeon. Salary £100 per annum, with lunch.

WHITTINGHAM COUNTY ASYLUM, Lancashire.—Junior Assistant Medical Officer, unmarried. Salary £150, with apartments, board, washing, and attendance.

WILTS COUNTY ASYLUM, Devizes.—Assistant Medical Officer, unmarried. Salary £160 a year, rising to £190, with board, residence, attendance, and washing.

WOLVERHAMPTON AND STAFFORDSHIRE GENERAL HOSPITAL.—House Physician. Salary £100 per annum, with board, lodging, and washing.

THE Chief Inspector of Factories, Home Office, S.W., gives notice of a vacancy as Certifying Surgeon under the Factory Acts at Rochford in the county of Essex.

Births, Marriages, and Deaths.

BIRTHS.

ALDERSON.—On May 16th, at Eldon-square, Newcastle-on-Tyne, the wife of Wilfred E. Alderson, M.D., M.S. Durh., of a son.

BOW.—On May 20th, at Pentland-terrace, Edinburgh, the wife of M. Ranken Bow, M.B., C.M. Edin., of a daughter.

MAUND.—On May 17th, at Brackley House, Newmarket, the wife of John H. Maund, M.R.C.S., L.R.C.P. Lond., of a daughter.

MARRIAGES.

GOODMAN—CLAY.—On April 28th, Cyril Goodman, M.A., M.B. Cantab., of Cairo, to Sue Elizabeth, younger daughter of Cassius M. Clay.

STANDAGE—LONSDALE.—On March 11th, at Holy Trinity Church, Bangalore, India, by the Rev. A. J. Jones, M.A., chaplain, Captain Robert Fraser Standage, I.M.S., son of the late Alfred Standage, of Hurcott, Worcestershire, to Gwendolen, daughter of the late William Lonsdale of Hutton Roof, Eastbourne.

SWINDALE—NEALE.—On May 19th, John Aston Swindale, M.B., B.S. Durh., to Mary Frances, daughter of W. A. Neale, J.P., of Waihi, N.Z.

DEATHS.

BODINGTON.—On May 8th, in Paris, George Fowler Bodington, M.D. Durham, F.R.C.S. Eng., M.R.C.P., late Superintendent of the Government Asylum, British Columbia, aged 73.

SIMMONDS.—On May 24th, at Camberwell-road, Henry Morris Simmonds, M.R.C.P., L.S.A., aged 75 years.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

FEES FOR INSURANCE EXAMINATIONS.

WE have received several more communications concerning the fees tendered by life assurance societies to medical men for undertaking the examination of candidates for policies. One of them contains the form of the medical report required by the Gresham Life Assurance Society, Limited. The report is marked "North-eastern branch, Parade Chambers, High-street, Sheffield; Francis Rankine, District Manager," so that perhaps it is not in general use by the society. It consists of questions to be put by the medical examiner to the person whose life is proposed for assurance and it is suggested that the medical man should take down the answers of the person examined, as far as possible, in his own words. The medical man is first asked to fill up a long tabular statement regarding the family record, spaces being left for such useful information as the existence of the candidate's sister's gout and the duration of his or her mother's father's last illness. Then follows a table under six main headings with 28 sub-headings, setting out the applicant's pathological history. We pity the medical man who has to fill up such a table and the applicant who has to answer the questions. Then we come to the medical examination. Four observations are required about the heart and five about the chest, elaborate measurements being necessary for conscientious answers. Five observations have to be made about the urine—and it is not considered sufficient that a medical man should state the presence or absence of albumin or sugar: he is also asked to state the tests which he has employed. We note that the medical man is constituted a kind of detective in behalf of the Gresham Life Assurance Society, Limited. He is asked how he has identified the person proposing to assure as himself or herself, and whether the sum proposed is excessive in relation to his or her position in life. Altogether it is preposterous that a medical man should be asked to undertake the filling up of such a document; but if he is seriously asked to render such service to the society he should be paid properly and not be offered 10s. 6d.

THE R.A.M.C. UNIFORM.

To the Editors of THE LANCET.

SIRS,—I am much obliged to "V. M. O." for his letter which appeared in THE LANCET of May 17th, p. 1440. In reply to "Surgeon-Lieutenant-Colonel" I beg to say that some little time ago I received a memo. from the Volunteer Ambulance School of Instruction to the effect that Volunteer medical officers were to wear "Sam Browne" belts of R.A.M.C. pattern in all orders of dress except review order, &c., and in Paragraph 240 of the Volunteer Surgeon's Guide those instructions appear.

I am, Sirs, yours faithfully,

May 24th, 1902. SURGEON-CAPTAIN.

A PLEA FOR THE FINAL YEAR STUDENT.

To the Editors of THE LANCET.

SIRS,—In these days of cramming and multitudinous subdivisions of subjects for the last and qualifying tests of our examining boards, the lot or burden of the poor student is becoming unbearable. After some years of a busy working-class practice in a large manufacturing city I am forced to admit that with a few exceptions I derived very little material benefit from the questions put to me at my "final." To prepare the general practitioner, who constitutes about 85 per cent. of all medical men turned out each year, for his future career there are practically seven or eight absolutely essential subjects which he should be well and practically taught—namely, anatomy, physiology, materia medica, surgery, medicine, midwifery, forensic medicine, and chemistry; the remaining few odd subjects, which have been added during the past few years, are pharmacy, biology, and pathology including bacteriology. I shall begin with pharmacy. Beyond what can be learned in a couple of hours about this subject in these days of manufacturing chemists nothing is practically left for a medical man to do in the way of dispensing. As for biology, what examples of this science present themselves to the busy practitioner? None, so far as my experience goes. Lastly, there come pathology and bacteriology. Would it not be quite sufficient for the present-day student to be taught and examined in the grosser pathology which is encountered in general medical and surgical practice and in which the students of 10 and 15 years ago were well versed and in my opinion were, and are up to the present time, as good and as practical men as are now being turned out? What have the researches of bacteriologists done to shorten the course and duration of diseases supposed to be of microbic origin? Phthisis still is rampant and still incurable. Enteric fever runs its full course and still presents its complications. Of what use is the knowledge of a microbe to the practitioner when called out between 1 and 2 o'clock on a winter's morning to the bedside of a man stricken down with pneumonia? Is not a knowledge of what will relieve and soothe his patient to be much preferred?

Since the introduction of bacteriology and antiseptics the poor student is having a hard time, and he gets these two subjects so deeply ground into him that for the first six months or so of post-graduate

life, when launched into a busy practice, he goes forth with fear and trembling, and at night may possibly suffer some remorse lest he has omitted some part of professional technique. After that time he begins to acquire more confidence in himself, forgets, fortunately for himself, a large number of theories, and then his success commences. In conclusion, on behalf of the large number of future general practitioners I would like to suggest that examining boards should include men recruited from the ranks of the busy general practitioner class—men of not less than 20 years' experience—as they are well fitted to know exactly what is required of the student, being themselves so much in touch with the sick and suffering. Each student should also be allowed to perform under personal supervision the minor operations of the surgical and obstetrical arts, such as minor amputations, circumcision, putting on forceps, and the administration of anæsthetics, thereby making him self-reliant and skilful. It is not possible for everyone to attend post-graduate schools.

I am, Sirs, yours faithfully,

Belfast, May 14th, 1902. R. H. D. POPE, L.R.C.S. Irel., &c.

THE LAW FUND.

TRUSTEES: THE PRESIDENT OF THE ROYAL COLLEGE OF PHYSICIANS OF LONDON, THE PRESIDENT OF THE ROYAL COLLEGE OF SURGEONS OF ENGLAND, AND THE MASTER OF THE SOCIETY OF APOTHECARIES OF LONDON.

The following additional subscriptions have been received by Dr. Paramore, 2, Gordon-square, W.C.:—

	£	s.	d.
Sir Samuel Wilks, Bart., F.R.S.	2	2	0
Dr. W. W. Hunt Tate ...	2	2	0
Dr. Peter Horrocks ...	1	1	0
Dr. George T. Beatson (Glasgow)	2	2	0
Mr. J. Bland-Sutton ...	2	2	0
Mr. Malcolm Morris ...	1	1	0
Dr. Henry C. Martin ...	3	3	0
Dr. J. Arthur Brown ...	1	1	0
Mr. John Padman	2	2	0
Dr. Rowland Thurnam, for self and partner, Dr. H. J. Trenchard (Nordrach Sanatorium)	2	2	0
Mr. W. Adams Frost ...	2	2	0
Mr. W. M. Bristow ...	0	5	0
Mr. Thomas Jago	0	10	6
Mr. George Thorpe ...	0	10	6
Dr. John Thompson ...	1	1	0
Mr. W. Erasmus Paramore	1	1	0
Mr. R. Horace Paramore	1	1	0
Dr. R. Paramore	2	2	0
Anonymous	0	5	0
L. A. B.	0	10	0
One who Read the Case	0	2	6
F. S.	0	2	6
Mr. Rayley Owen	1	1	6
Mr. F. Everard Row ...	0	10	6
Mr. J. Browne O Connor	0	10	6
Mr. George Frederick Hugell	0	10	7
Mr. James Clifton	0	5	0
Mr. Denyer W. F. Latham	0	10	6
Mr. Owen Bowen	0	5	0
Dr. John Hopper Baker	0	10	6
Dr. FitzGerald Isdell ...	0	10	6
E. S.	0	2	6

MEDICAL MAGISTRATES.

THERE is no doubt that medical men as magistrates could summarily dispose of many cases of malingering and of pretenders who claim to have received bodily injury. As an instance of this a tramp at Scarborough, on May 27th, claimed exemption from work in the workhouse alleging that he had a broken arm. The arm was examined by one of the magistrates who happened to be a qualified medical man. The limb proved to be merely bruised and not broken. The magistrates sentenced him to 14 days' imprisonment.

THE "Y" FUND.

SURGEON-GENERAL H. S. MUIR begs thankfully to acknowledge additional donations towards the above Fund from Professor and Mrs. A. E. Wright, Staff Surgeon J. H. Thomas, R.N., "F. E.," Dr. E. Baxter Forman, Dr. Kerr, Dr. Fuller England, Dr. R. C. Brown (Preston), Mr. J. R. Preston (Fleetwood), "A Well-Wisher" (through Mrs. C. White), Mrs. Dallas Edge, Mrs. J. Irwin, Mrs. H. Stokes, Surgeon-General A. F. Preston, A.M.S., Surgeon-Colonel W. T. Martin, A.M.S. (retired), and the following officers of the Royal Army Medical Corps: Lieutenant-Colonels E. M. Wilson, C.M.G., D.S.O., W. S. Pratt, W. G. A. Bedford, C.M.G., J. G. MacNeece, R. Vacy Ash, N. McCreery, G. T. Trewman, H. H. Stokes (retired); Majors W. H. Horrocks, E. R. Cree, H. P. G. Elkington, Birt, James, Captain J. Clarke (M.); and Lieutenants A. F. Carlyon and W. M. Power. The fund now amounts to £198. It may be explained that this is in response to an appeal made privately to members of the profession for benevolent aid in a distressing case which has been described in a letter sent to a limited number of medical men (who would help the cause by kindly "handing on" to *confrères*). Should any reader of THE LANCET desire further particulars with a view to expressing *practical sympathy*, a copy of the letter will be forwarded on application to Surgeon-General Muir, 26, Kensington-gardens-terrace, Hyde Park, London, W.

NOTIFICATION OF DISEASE.

To the Editors of THE LANCET.

SIRS,—MAY I call attention to one objection there is to the compulsory notification of disease by medical men as it is now in vogue? In poor neighbourhoods the visits and attendances of medical men have to be cut down to the lowest actually necessary amount. Many of the notifiable complaints are difficult to identify without proper observation—in some cases lasting for days. Medical men practising in poor neighbourhoods know that they may only have one chance of seeing patients who come or are brought to the surgery. They know also that their visits to the homes of the patients must either be gratuitous or unwelcome to the patients and their friends. But if, in face of these facts, a medical man seeing a suspicious case—scarlet fever, typhoid fever, or small-pox—and preferring to avoid risk of infection and spread of the disease certifies "that *in my opinion* the person, &c.," is suffering from one or the other of these diseases he may find that the patient's friends after a day or so receive a note from the medical man at the hospital to the effect that it "does not appear that so-and-so has been suffering from such and such disease." And so the medical man is discredited and loses patients because another medical man says that his opinion is different. For with the poor "hospital doctors" and "hospital opinions" cannot err—"can do no wrong." This is particularly the case when the hospital is unknown or at a distance. *Omne ignotum pro terribile.* Of course, it is just possible that after all the original medical attendant may have been right. Undoubtedly, the mistakes that have been detected in notifications of these diseases do in many cases arise from this cause. Therefore, a medical man must ask himself, "Shall I notify or shall I let the infection take its chance?" For my part, having some regard to the good opinion of the people among whom I am practising, I have come to the conclusion that it is wiser not to notify until you are quite sure. But then while I am making sure I am perhaps spreading the disease. The truth is, it is not fair to put medical men in this dilemma. If there is found to be an error or a difference of opinion about the case after further observation at the hospital it ought to be the notifying medical man who receives the information and silence ought to be observed both to the patient and to the friends. As it is at present the patient or the friends are practically told that "their fool of a doctor has made a mistake," with the inevitable consequence to the doctor. It may be said that there is always the medical officer of health to be called upon as a second opinion. But this is not the case. Medical men have no hold upon the casual cases brought to their surgeries. If people have any suspicion they will give false addresses sooner than be notified as infectious.

Nor is this all. I was called to a case which I was able to watch. I identified it after a day or two as chicken-pox, but knowing the possibility of human error I decided to call the medical officer in to see the case. He came and declined to say on first visit. He came again and certified the case as small-pox. The patient was taken to the hospital. Next day an intimation was received by the friends from the hospital that the case was one of chicken-pox. Then I scored, but the remarks about the medical officer of health for the district were the reverse of complimentary for all that I could do to explain the difficulty. For obvious reasons I must not publish my name, but I inclose a card and sign myself THE MISUNDERSTOOD.

May 20th, 1902.

PROPOSED MEMORIAL TO THE LATE SURGEON-GENERAL W. NASH, A.M.S.

Additional subscriptions:—Lieutenant Langford Lloyd, 10s.; Major F. Smith, 5s.; Captain G. A. T. Bray, 10s.; previously acknowledged, £89 10s.; Total, £90 15s.

LAPSUS LINGUÆ.

A COMICAL incident occurred in the Plymouth Police-court on May 21st. A considerable number of parents were summoned for neglecting to have their children vaccinated and much amusement was caused when, in one of the first cases, the presiding magistrate gravely announced that an order would be made for the child to be "baptised" within 14 days. Apparently the magistrate could not get the phrase out of his mind, for he erred in a precisely similar way three times within an hour.

Mr. A. Robinson and Mr. L. J. Serin.—Before we can publish comments on the practice of selling drugged and fermented milk as nursery milk we must have proof of its existence. We shall be happy to receive any literature on the subject and any references to the conviction of offenders.

L. P. G.—Undoubtedly the General Medical Council might take notice of such conduct but the information must be properly laid before them. They cannot be expected to pay attention to anonymous accusations.

A. S. A. may possibly find the information that he seeks in our advertisement columns. He should communicate with the secretaries or superintendents of the various nursing associations.

Entomologist.—D. Sharp's "Insects" (Cambridge Natural History Series), published by Messrs. Macmillan and Co., contains all the information and more.

M.B., F.R.C.S.—With certain precautions which the makers enjoin the "Pasteur" filter would fulfil our correspondent's requirements.

M.B., B.C., is recommended inaction. Why stir up a dead quarrel?

Ishmael.—The references will be found in Neale's Digest.

During the week marked copies of the following newspapers have been received:—*Hong-Kong Daily Press, South-Western Star (London), Western Daily Mercury, Yorkshire Mercury, Cork Constitution, Sheffield Independent, Bradford Observer, Morning Post, Essex Herald, Hereford Mercury, Hartlepool Mail, Suffolk Chronicle, Surrey Advertiser, Bristol Mercury, Dublin Express, Darlington Star, Times of India, Daily Graphic, Huddersfield Examiner, Sanitary Record, Local Government Chronicle, Hertfordshire Mercury, Dundee Advertiser, West Sussex Gazette, Bolton Chronicle, Kent Messenger, Middlesbrough Gazette, Birmingham Post, Rushden Argus, &c.*

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, May 29th, 1902.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rainfall.	Solar Radiation Temp.	Maximum Temp. in Shade.	Min Temp.	Wet Bulb.	Dry Bulb.	Remarks at 8.30 A.M.
May 23	30·20	S.E.	0·30	75	61	51	53	54	Raining
,, 24	30·36	N.	0·01	114	69	52	57	61	Cloudy
,, 25	30·44	N.W.	...	119	72	58	57	60	Fine
,, 26	30·32	N.	...	120	71	52	51	58	Fine
,, 27	30·06	W.	...	120	74	52	56	60	Fine
,, 28	29·72	W.	...	122	72	50	57	60	Fine
,, 29	29·79	W.	0·03	105	65	52	51	58	Hazy

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (2nd).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), Royal Orthopædic (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.) West London (2.30 P.M.), London Throat (9.30 A.M.), Royal Free (2 P.M.).

TUESDAY (3rd).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Royal Ear (3 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.).

WEDNESDAY (4th).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic, 1 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Gt. Ormond-street (9.30 A.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Cancer (2 P.M.), Throat, Golden-square (9.30 A.M.).

THURSDAY (5th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.) St. Mark's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.).

FRIDAY (6th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), Ophthalmic (10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square, (9.30 A.M.), City Orthopædic (2.30 P.M.).

SATURDAY (7th).—Royal Free (9 A.M.), London (2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), University College (9.15 A.M.), Charing-cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 P.M.), Throat, Golden-square (9.30 A.M.).

At the Royal Rye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

SOCIETIES

WEDNESDAY (4th).—OBSTETRICAL SOCIETY OF LONDON (20, Hanover-square, W.).—8 P.M. Specimens will be shown by Dr. Lewers, Dr. A. Lea, and Dr. Williamson. Mr. M. Robson: Notes of a Case of Primary Ovarian Gestation (showing the specimen). Paper:—Mr. A. Doran: Pregnancy after Removal of both Ovaries for Cystic Tumour.

THURSDAY (5th).—RÖNTGEN SOCIETY (20, Hanover-square, W.).—8.30 P.M. Paper:—The President: The Sources of Phosphorescence. NORTH-EAST LONDON CLINICAL SOCIETY (Tottenham Hospital).—4 P.M. Clinical Cases will be shown.

FRIDAY (6th).—WEST LONDON MEDICO-CHIRURGICAL SOCIETY (Society's Rooms, West London Hospital).—9 P.M. Cases:—Dr. S. Taylor: A Case of Symmetrical Œdema of the Legs in a Man.—Dr. A. Saunders: Rheumatic Endocarditis in a Case of Transposed Viscera.—Dr. Beddard: Pulmonary Stenosis.—Dr. A. Saunders: Pulmonary Stenosis.—Dr. G. P. Shuter: A Case of Acromegaly.—Mr. J. R. Lunn: (1) A Case of Doubtful Congenital Dislocation of Hip in a Girl, with Skiagram; (2) A Case of Arteritis of the large Vessels with no Pulses at the Wrists in a Man; (3) Epithelioma of the Finger of a Man, with Sections for Microscope.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

MONDAY 2nd.—POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M. Dr. Ball: Discharges from the Ear, their Causes and Treatment.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Dr. J. J. Pringle: Clinique. (Skin.)

ROYAL INSTITUTION OF GREAT BRITAIN.—5 P.M. General Monthly Meeting.

TUESDAY 3rd.—POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M. Malignant Diseases of the Uterus.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Dr. James Taylor: Clinique. (Medical.)

ROYAL INSTITUTION OF GREAT BRITAIN.—3 P.M. Prof. K. Pearson: The Laws of Heredity with Special Reference to Man.

POST-GRADUATE CLINICAL DEMONSTRATION (Westminster Hospital).—4.30 P.M. Dr. W. A. Wills: A Case of Raynaud's Disease with Sclerodermia (with some other illustrative cases).

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (Queen-square, Bloomsbury).—3.30 P.M. Dr. Ferrier: Disseminated Sclerosis.

WEDNESDAY (4th).—POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M. Mr. McAdam Eccles: Surgical Anatomy.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Mr. Jackson Clarke: Clinique. (Surgical.)

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST (Brompton).—4 P.M. Dr. Habershon: Congenital Heart Disease.

THURSDAY (5th).—POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M. Dr. Davis: Medical Anatomy and Physical Diagnosis.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Mr. Hutchinson: Clinique. (Surgical.)

THE HOSPITAL FOR SICK CHILDREN (Gt. Ormond-street, W.C.).—4 P.M. Dr. Voelcker: Demonstration of Selected Cases.

CHARING CROSS HOSPITAL.—4 P.M. Dr. Galloway: Demonstration of Dermatological Cases. (Post-Graduate Course.)

FRIDAY (6th).—POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M. Dr. Reece: Small-pox and Vaccination.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Dr. Jobson Horne: Clinique. (Throat.)

ROYAL INSTITUTION OF GREAT BRITAIN.—9 P.M. Sir B. Baker: The Nile Reservoir and Dams.

EDITORIAL NOTICES.

IT is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITORS," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this Office.

Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers—not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale, and advertising departments of THE LANCET *should be addressed "To the Manager."*

We cannot undertake to return MSS. not used.

MANAGER'S NOTICES.

TO SUBSCRIBERS.

WILL Subscribers please note that only those subscriptions which are sent direct to the Proprietors of THE LANCET at their Offices, 423, Strand, W.C., are dealt with by them? Subscriptions paid to London or to local newsagents (with none of whom have the Proprietors any connexion whatever) do not reach THE LANCET Offices, and consequently inquiries concerning missing copies, &c., should be sent to the Agent to whom the subscription is paid and *not* to THE LANCET Offices.

Subscribers, by sending their subscriptions direct to THE LANCET Offices, will ensure regularity in the despatch of their Journals and an earlier delivery than the majority of Agents are able to effect.

The rates of subscriptions, post free, either from THE LANCET Offices or from Agents, are:—

FOR THE UNITED KINGDOM.		TO THE COLONIES AND ABROAD.	
One Year	£1 12 6	One Year	£1 14 8
Six Months	0 16 3	Six Months	0 17 4
Three Months	0 8 2	Three Months	0 8 8

Subscriptions (which may commence at any time) are payable in advance. Cheques and Post Office Orders (crossed "London and Westminster Bank, Westminster Branch") should be made payable to the Manager, Mr. CHARLES GOOD, THE LANCET Offices, 423, Strand, London, W.C.

Communications, Letters, &c., have been received from—

A.—Messrs. Allen and Hanburys, Lond.; Mr. F. Alcan, Paris; Mr. E. P. Ashmore, Lond.; Mr. V. E. R. Ardagh, South Shields; Professor J. G. Adami, Montreal; Dr. David M. Aitken, Lond.; Messrs. Ayrton and Saunders, Liverpool; A. L. M.; Messrs. Albery and Lawrence, Hove; Mr. W. Alabaster, Lond.

B.—T. B. Browne, Ltd., Lond.; Dr. R. H. Barker, Hungerford; Mr. E. Baker, Birmingham; Messrs. J. Bale, Son, and Danielsson, Lond.; Messrs. Barrauds, Lond.; Birmingham and Midland Hospital for Skin Diseases, Secretary of; Bristol Corporation, Town Clerk of; Major W. Buchanan, Calcutta; *British and Colonial Druggist*, Lond., Proprietor of; Dr. Leon Blanc, Aix-les-Bains; Dr. Wm. Bruce, Lond.; Mr. Haydn Brown, Surbiton; Mr. J. Cunningham Bowie, Cardiff.

C.—Central Reporting, Typewriting and Press Agency, Lond.; Cortland Wagon Co. Lond.; Messrs. E. Cook and Co., Lond.; Messrs. A. H. Cox and Co., Brighton; Mr. H. S. Cooper, Yaxley; Dr. H. J. Cooper, Lyme Regis; Dr. A. Craigmile, Egremont; Dr. W. Collingridge, Lond.; Dr. T. Carwardine, Bristol.

D.—Mr. H. J. Dunn, Caterham; Messrs. Dunville and Co., Belfast; Mr. A. C. David, Lond.; Messrs. Doulton and Co., Lond.; Mr. G. de Fraine, Aylesbury; Dr. E. Diver, Lee-on-the-Solent; Denver Chemical Manufacturing Co., New York; Mr. A. H. Diplock, Lond.; Mr. C. H. Duncan, Philadelphia, U.S.A.; Colonel O. Duke, Lond.

F.—Mr. W. M. Fisher, Dundee; Mr. W. C. Finch, Salisbury Dr. W. Pemberton Fooks, Isleworth; Messrs. H. Francis and Co., Lond.; Dr. Fullerton, Glasgow.

G.—Mr. W. Gemmel, Liverpool; Mr. E. Gooch, Lond.; G. T. M.; Mr. E. G. B. Godding, Newbury; G. N. N.; Major Gorgas, Havana; Messrs. C. Griffin and Co., Lond.

H.—Mr. John Hickman, Lond.; Mr. G. Hermanni, jun., Lond.; Mr. R. Hingston, Liskeard Hotel Tariff Bureau, Lond.; Messrs. J. Haddon and Co., Lond.; Horton Infirmary, Banbury, Secretary of; Mr. E. J. Howley, Sunderland; Mr. C. J. Havart, Lond.; Dr. R. Hutchison, Lond.

I.—Messrs. Ingram and Royle, Lond.; Dr. W. Irving, Christchurch, New Zealand.

L.—Messrs. Lee and Nightingale, Liverpool; Dr. T. D. Luke, Edinburgh; Dr. J. Dickinson Leigh, Scarborough; Surgeon G. Ley, R.N., Lond.; Mr. T. Laffan, Cashel; Rev. F. Lawrence, Kirkham, Abbey, York.

M.—Mr. J. D. Marshall, Lond.; Maltine Manufacturing Co., Lond.; Maltova Food Co., Leeds; Medical Graduates' College and Polyclinic, Lond., Secretary of; Dr. D. M. MacRae, Cape Town; Manchester Medical Agency, Secretary of; M. J. B.; Dr. P. W. Macdonald, Herrison; Mr. A. W. McMath, Hayward's Heath; Messrs. Macminn, Richardson and Co., Lond.; Mr. M. S. Mayor, Lond.; Middlesex Hospital, Lond., Secretary-Superintendent of; Dr. W. Murrell, Lond.; Mr. F. Marsh, Birmingham; Mr. J. Milner, Shipdham.

N.—Messrs. Neyroud and Son, Lond; Mr. T. Neville, Farnborough; Mr. J. C. Needes, Lond.; Mr. H. Needes, Lond.

O.—Colonel O'Connell, R.A.M.C., York.

P.—Mr. Y. J. Pentland, Edinburgh; Messrs. Penfold and Co., Lond.; Lieutenant-Colonel E. Pemberton, I.M.S., Bellary, India; Mr. F. E. Potter, Lond.; Messrs. Peacock and Hadley, Lond.; Messrs. C. Pool and Co., Lond.; Dr. R. Paramore, Lond.

R.—Mr. E. J. Reid, Lond.; Royal Cornwall Infirmary, Truro, Secretary of; Rebman, Ltd., Lond.

S.—Mr. J. E. Shaw, Ayr; Messrs. W. H. Smith and Son, Lond.; St. Mungo's College, Glasgow, Secretary of; Captain R. F. Standage, I.M.S., Bangalore, India; Dr. J. P. Small, Govan; Messrs. W. H. Smith and Son, Birmingham; Sussex County Hospital, Brighton; Staffs County Asylum, Stafford, Medical Superintendent of; St. Marylebone General Dispensary, Secretary of; Messrs. G. Street and Co., Lond.; Messrs. Smith, Elder, and Co., Lond.; Scholastic, Clerical, &c., Association, Lond.; Sanitas Co., Lond., Secretary of; Sheffield Royal Hospital, Secretary of; Dr. Springthorpe, Melbourne; Dr. J. A. Shaw-Mackenzie, Lond.; Dr. James Shaw, Liverpool; Mr. Upsher Smith, Watford; Mr. Geddes Scott, Funchal; Dr. H. Douglas Singer, Lond.; Dr. Lauriston Shaw, Lond.; Messrs. Sewell and Crowther, Lond.; Society for the State Registration of Trained Nurses, Lond., Hon. Secretary of; Major B. M. Skinner, R.A.M.C., Lond.

T.—Dr. F. Test, Tegucigalpa, Honduras; Messrs. A. H. Turner and Co., Lond.; Messrs. J. G. Thomson and Co., Lond.; Toilet Novelties Co., Bristol; Travellers' Health Bureau, Lond., Secretary of.

V.—Vacuum Cleaner Co., Ltd., Lond.

W.—Dr. Essex Wynter, Lond.; Messrs. W. Wood and Co., New York; Dr. M. Dale Wood, Hayward's Heath; Mr. G. Wotherspoon, Strathpeffer; Wolverhampton General Hospital, Secretary of; Mr. J. Williams, Bradford; Dr. G. Wilkinson, Sheffield; Dr. A. Waring, Nottingham; Mr. G. W. Ainley Walker, Lond.; Mr. W. Roger Williams, Clifton.

Z.—Mr. A. Zimmermann, Lond.

Letters, each with enclosure, are also acknowledged from—

A.—Mr. C. H. Atkinson, Lond.; Apothecaries' Hall, Dublin, Secretary of; A. D.; Messrs. T. and M. Armstrong, Lond.; Dr. E. Allen, Hawes; A. H. W.; A. R. R.

B.—Mr. C. A. Ballance, Lond.; Mr. C. Birchall, Liverpool; Dr. M. Beverley, Norwich; Mr. A. E. Bodington, Purley; Messrs. Burroughs, Wellcome, and Co., Lond.; L. H. Bennett, Paignton.

C.—Dr. W. Crerar, Newmilns; Messrs. W. P. and W. Cox, Leicester; Mr. Clements, Cookham; Mr. F. W. J. Coaker, Bromsgrove; Messrs. Carter, Lond.

D.—Mr. J. Dennis, Crowborough; Mr. E. C. Dean, Bridgetown, Western Australia; Mr. W. Doughty, Chillington.

E.—Messrs. Elliott, Son, and Boyton, Lond.; E. E.; E. B. H.; E. P.

F.—Mr. A. Fitzgerald, Waterford; Messrs. J. S. Fry and Sons, Bristol.

G.—Mrs. A. Gordon, Hassocks; Mrs. Godfrey, Eversley; Messrs. Graham and Shepherd, Sunderland; G. A. H. B.; Messrs. Guyot, Guenin, and Son, Lond.; Messrs. Grindlay and Co., Lond.; Messrs. Gilyard Bros., Bradford; Messrs. E. B. Goulden and Co., Canterbury; G. T. P.; G. and W.

H.—Dr. A. Holt, Brighton; H. G.; Mr. T. W. Hughes, Liverpool; Hamilton Association, Lond.; Dr. J. Hunter, Invercargill, New Zealand; H. H. H.; H. L.; Mr. F. Hibbert, St. Albans; H. G. W.; H. B.; H. T.

I.—Invernith Lodge Retreat, Retreat, Dumfries, Proprietor of.

J.—Miss Jex-Blake, Mark Cross; Dr. C. H. L. Johnston, St. John, Canada; J. T. J.; J. E. A.; J. O.; J. C. J.; J. N. P.; J. W.; Mr. G. M. Jones, Alton; J. W. T.; J. B. S.

K.—Surgeon A. E. Kelsey, R.N., Auckland, New Zealand; Messrs. Krohne and Sesemann, Lond.; Mr. R. A. Keys, Pontypridd.

L.—Mr. F. Lowe, Lond.; Lemanstreet (68), Lond.

M.—Mr. G. E. Mould, Rotherham; Miss S. Macpherson, Doncaster; Dr. F. J. McKetticker, Lond.; Mr. C. Morgan, Bourne; Dr. T. Morton, Lond.; Mr. T. H. Middlebro, Owen Sound, Canada; Miss Macpherson, Cusworth; Mr. M. D. Makuna, Treherbert; Mr. H. Morris, Lond.; Mr. A. H. M. Macmorran, Lond.; Dr. W. A. MacDonald, Lynn, Mass., U.S.A.; Medicus, Kingston-on-Thames; M. K., Seaforth; Dr. A. Marriott, Aldeburgh.

N.—Northern Medical Association, Glasgow; Northlands Retreat, Lond., Proprietors of.

P.—Mr. G. P. Pollitt, Lond. Dr. A. H. Pirie, Lond.; Mrs. Winslow Phillipps, Torquay.

R.—Dr. A. Rose, Horwich; R. O.; Dr. J. W. Russell, Birmingham Resident Physician, Kingston Hill; Mr. H. A. Reeves, Lond.; Mr. C. Ricker, St. Petersburg; Dr. R.; Mr. W. C. Ross, Inneskeen.

S.—Mr. D. Sen, Buxar, India; Mr. F. H. Simmons, Johannesburg; Mr. T. G. Scott, Lond.; Standard Wine Association, Lond.; Mrs. Seymour, Oxford; Miss E. Stowell, Georgetown, Canada; Saarbach's News Exchange, Mainz; *Sheffield Independent Press*, Proprietors of; Mr. H. J. Satchwell, Stansted; Smith's Advertising Agency, Lond.; Shares, Bristol; Messrs. M. Samuel and Co., Lond.; Sanitas Electrical Co., Lond.

T.—Dr. P. T. Tolputt, Blackburn; Dr. A. Turner, Plympton; Mrs. Theobald, Leicester; T. R. D.; Mr. P. V. Timothy, Longton; Dr. W. A. Turner, Lond.

V.—Mr. W. Van Praagh, Lond.; Major W. Vickers, I.M.S., Waltair, India; Victoria Carriage Works, Lond.

W.—Mr. A. O. Way, Amersham; Dr. A. Tucker Wise, Dartmouth; Messrs. G. A. Wilkinson and Son, Lond.; Dr. F. Watson, Ayr; Dr. Williamson, Lond.; Messrs. W. Watson and Co., Lond.; Messrs. Whitbread and Co., Lond.; Mr. J. R. White, Ipswich; W. M. B.; Mrs. Waddell, Lond. Westminster Parade (13), Lower Edmonton; Mr. W. D. Whatley, Walthamstow; W. N.; Mr. W. Webb, Swinbrook.

X.—X. Y., Lond.

EVERY FRIDAY.

THE LANCET.

PRICE SEVENPENCE

SUBSCRIPTION, POST FREE.

FOR THE UNITED KINGDOM.		TO THE COLONIES AND ABROAD.	
One Year	£1 12 6	One Year	£1 14 8
Six Months	0 16 3	Six Months	0 17 4
Three Months	0 8 2	Three Months	0 8 8

Subscriptions (which may commence at any time) are payable in advance.

ADVERTISING.

Books and Publications ...	Seven Lines and under	£0 5 0
Official and General Announcements	Ditto	0 5 0
Trade and Miscellaneous Advertisements	Ditto	0 4 6
	Every additional Line	0 0 6

Quarter Page, £1 10s. Half a Page, £2 15s. An Entire Page, £5 5s.

Terms for Position Pages and Serial Insertions on application.

THE LANCET can be obtained at all Messrs. W. H. Smith and Son's and other Railway Bookstalls throughout the United Kingdom. Advertisements are also received by them and all other Advertising Agents.

Agent for the Advertisement Department in France—J. ASTIER, 8, Rue Traversière, Asnières, Paris.